Before The
Federal Communications Commission
Washington, D.C.

In the Matter of	)	
	)	CC Docket No. 02-6
Schools and Libraries Universal Service Support Mechanism	)	

COMMENTS OF SCHOOLWIRES, INC.

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COMMENTS OF SCHOOLWIRES, INC.

Schoolwires, Inc. ("Schoolwires"), by and through its attorneys, submits these comments in response to the Further Notice of Proposed Rulemaking ("FNPRM") addressing matters related to the eligibility of certain services under the schools and libraries universal service support mechanism, also known as the E-rate program.[1]

I. SUMMARY OF COMMENTS

The tentative conclusion set forth in the FNPRM to remove web hosting as an eligible service under the E-rate program, or, alternatively, reclassify Web hosting from a Priority 1 service to a Priority 2 service threatens to eliminate funding for a service that serves as a key communication backbone and conduit of information that supports critical educational functions. Schoolwires is concerned about the profound effect the Commission's proposal to eliminate web hosting services from the Eligible Services List ("ESL") will most certainly have on its customers and the schools, parents and students they serve. Districts will be forced to find other funding sources, including the reduction of staff and academic programs to keep their websites up and running. Schoolwires is not suggesting here that E-rate funding be used to support the

[1] FCC 09-105 (rel. Dec. 2, 2009), 75 Fed. Reg. 32692 (June 9, 2010).

software and other tools that teachers are increasingly using to expand learning within and beyond the classroom. Instead, we want the FCC to understand that, by eliminating web hosting as an eligible service; parents, teachers, students, and other community members may lose access to those services. Many school districts, especially rural and urban school districts, which have the least economic resources and the greatest need for the benefits delivered by web hosting services, will be forced to find funding for their website hosting from other existing and limited budgets if E-rate support for web hosting is eliminated. Schoolwires demonstrates through these comments that web hosting is essential to the educational purposes of schools and is instrumental to the ability of school districts to address the academic and communication imperatives that are mandatory for the success of students.

II. SCHOOLWIRES

Founded in 2000, Schoolwires is one of the fastest growing educational technology companies in the United States. In 2007 and again in 2008, Schoolwires was included in *Inc.* magazine's Top 500 list, achieving a rank of 174th and 328th, respectively, for the fastest growing, privately-held company in the nation and the third fastest in the education sector. In 2009, Schoolwires was ranked number 605 in the *Inc.* 5000 list and was one of the top 10 fastest growing, privately-held companies in the education industry. Schoolwires is located in State College, Pennsylvania and is led by a diverse and experienced group of individuals who are passionate about education, technology and the future of learning.

Schoolwires provides software and services, including web hosting services, to over 1,100 K-12 school districts across the country, encompassing 6,000 schools in 46 states, and has

an estimated 6 million users. The company's customers are a diverse group of school districts, each with unique needs.[2] Schoolwires has been a participant in the E-rate program since 2004.

Schoolwires provides website and community management software through its core product *Centricity*, digital file sharing software with *Synergy* ™, work order/service request software with *Assist* ™, hosting, implementation and training for each of these products to K-12 school districts.[3] Only the web hosting for *Centricity*, is eligible for E-rate support. As stated above, Schoolwires is concerned with the profound effect the change will have on its customers and the schools and students they serve if they are forced to eliminate access to the tools supported by web hosting or they are forced to cut academic programs and staff to fund web hosting from their own coffers.

III. THE IMPORTANCE OF WEB HOSTING

A. School Websites Perform Critical Educational Functions

In a recent survey of over 200 Schoolwires customers, 98% of school leader respondents indicated that their district, school and classroom websites perform critical educational functions. Specifically, survey respondents said that their family of school district, school and classroom websites performs the following essential functions:

- Provide an ongoing mechanism for family and community engagement: 100%
- Provide a forum to inform community stakeholders, such as parents, parent organizations, taxpayers and community-based organizations of school and school district of activities, needs, and opportunities to get involved: 95%

[2] The Onion Creek School District in Washington, with one school and 36 students, is Schoolwires' smallest customer. The Dallas Independent School District in Texas, consisting of 226 schools and 161,244 students, is Schoolwires' largest customer. Ninety-two percent of Schoolwires customers are school districts with fewer than 15 schools.

[3] In its customer contracts, Schoolwires separately identifies and prices the different software products and hosting services to distinguish its E-rate eligible service (web hosting for Centricity) from its other services (which are not eligible for E-rate support).

- Provide a vehicle to enhance transparency between parents, teachers, students and school district administrators (*e.g.*, allowing parents to have access to the academic progress of their child/children): 91%
- Attract and retain families and quality teachers and administrators to school districts: 76%
- Create community-oriented schools: 87%
- Increase out-of-school learning time by providing students and parents with 24/7 access to classroom information and supplemental educational resources: 87%
- Energize learning for "digital native" students: 70%
- Extend access to state data to inform and engage, as appropriate, key stakeholders, such as parents, students, teachers and general community members: 83%
- Level the playing field across rural/urban schools by providing all students, educators, parents and community stakeholders with instant access to school district, school and classroom information: 75%
- Make it possible for school district leaders to communicate quickly and efficiently during times of crisis: 89%

B. Web Hosting Facilitates Learning Opportunities

School administrators consistently tell Schoolwires that the educational tools provided on their websites improve teaching and learning outcomes through increased parental and student engagement, extended learning time, and individualized classroom learning. In each of the following examples of these benefits, web hosting provides the backbone for access to the tools discussed.[4]

- **School City of Hobart, Indiana.** At the School City of Hobart in Indiana, school administrators are keenly aware that increased parent involvement leads to improved student success.[5] However, they also recognize that parents often face

[4] Schoolwires reiterates that it is not suggesting that E-rate funding be used to support the software and other tools that we discuss in this section. We explain how these tools are being used by teachers and students to support our argument that parents, teachers, students, and other community members will lose access to these services if funding for their conduit, web hosting, is eliminated.

[5] One hundred percent of the research studies compiled by The Parent Institute* indicate that parent involvement has a significant impact on student success. The statistics show that with as little as a one-third increase in parent participation, school achievement scores increase dramatically. It only takes a small increase in parent input to see measurable results in student output! *See* http://www.parent-institute.com/educator/about/

impediments that limit their ability to be involved. Some work long hours and have limited time to engage with their children and the School City of Hobart, while others are uncertain on how to engage themselves. The School City of Hobart is helping parents overcome these obstacles by leveraging functionality within the district's family of websites which are accessed through the underlying infrastructure provided through web hosting. The School City of Hobart's interactive website includes safe social media tools, such as blogs and podcasts, and a host of online resources that inform and involve stakeholders. The School City of Hobart operates a national research-based multimedia campaign, "Be There," designed to promote parental involvement in their children's education.[6] The School City of Hobart's website serves as the hub and forum for "Be There" and allows parents to interact with each other and the School City through a blog. According to Peggi Buffington, Superintendent of School City of Hobart, "our website has become such a valuable resource that many of our parents have set the district website as their home page."

- **Newark, New Jersey.** Physics is a requirement for 9th grade students under the New Jersey Center for Teaching and Learning's Progressive Science Initiative.[7] This program has restructured the science curriculum and trains teachers to teach in a way that allows students to apply what they are learning in physics across other areas of math and science. Technology plays a central role in the program. School districts that want to implement this program must commit to providing 21st century classrooms. Providing internet access to the district/school website,

[6] *See* http://www.bethere.org.
[7] *See* http://www.njctl.org/page.aspx.

the hub of communication and access to collaborative Internet-based technologies in the classroom, allows and encourages students to interact with each other while teachers monitor their progress. The significant increase in the number of students who want to continue with 10th grade AP physics is evidence of the success of the program. In Newark, more than 50% of students decided to tackle the advanced physics course, according to Robert Goodman, the Center's director compared to the typical 2% of students across the state.[8]

- **Garnet Valley School District, Pennsylvania**. Garnet Valley found that its students, as digital natives, were ahead of the district when it came to technology skills. To close the gap, the district implemented a district-wide website solution. According to Paul Sanfrancesco, Director of Technology for Garnet Valley, nearly 100% of the district's teachers now use the websites to engage students, both in and outside of the classroom, with technology applications facilitated through websites. Garnet Valley's teacher adoption goal was achieved through its popular training program, "Academy," which allows teachers, through access to Schoolwires' *Centricity* platform, to learn how to use the various "Web 2.0" technologies. The web platform is the single point of entry for all users, the hub for parents, teachers and the broader community to gain access to a vast array of educational resources, regardless of the system of origin of those resources. Teachers blog with students, students collaborate on writing projects, and the district engages a broader segment of the community. "The *Centricity* platform has helped us create a web presence beyond our expectations. It has elevated our communications and interactions with the community to a new level, and it has

[8] *See* http://www.nea.org/home/37471.htm.

taken our teachers into the 21st century so that they can prepare our students for the future", according to Paul Sanfrancesco, Director of Technology for Garnet Valley.

- **Prospect Avenue School, Texas.** Gillian Ryan, a 5th grade teacher, uses her Schoolwires teacher page to communicate about assignments with parents and students. Movies and digital images created by students in the classroom are available on her teacher web pages so that parents and family members can view their students work. As a result, family members feel more connected to the activities that take place in the classroom. Safe social media capabilities within the website allow Gillian to use technology to engage students in learning. Gillian says "I started using an incredibly simple yet powerful tool that has dramatically improved my classroom instruction and student engagement . . . it has truly revolutionized my classroom." For example, the ability of students to view their peers work through a website blog has improved the writing skills of students.

Thought leaders in the education field recognize that the essential question on technology's role in learning is not about the technology used but *how* to use it. Alan November, for example, the international leader in education technology,[9] hosts an annual conference on effective ways to engage students through education technology. Educators from a broad range of backgrounds and locations attend the event to learn about effective applications of technology in learning environments.[10] Mr. November argues that people, including children, have an innate

[9] *See* http://novemberlearning.com/team/alan-november/alancv/ for more information on Mr. November's background.
[10] *See* http://novemberlearning.com/blc/.

emotional need to contribute to their communities.[11] "The strongest learning occurs in a collaborative environment, and this requires that districts provide new ways for teachers to engage students in the learning process so that they have the skills to apply knowledge in the real world," according to Mr. November. As the farm culture was replaced by formal education, children increasingly lost their role as contributors, but technology now offers educators the opportunity to help students learn while making "valuable contributions to their learning community."[12] Tools such as "screencasting and podcasting," for example, "give students opportunities to contribute content to the class" while simultaneously "provid[ing] them with rigorous and more motivating assignments" that better prepare them for life in today's digital, globally connected economy.[13]

Mr. November notes that outside of school, his son "has five basic tools, or digital containers, for managing his content, communicating with the world, and accessing his entertainment: blogs, his iPod, Instant Messenger, YouTube, and video games."[14] In school, not only does he lack access to websites that deliver those tools, "he has been taught that they have nothing to do with learning."[15] Those five tools are the reality in which today's students live and the reality in which the global economy operates. Mr. November characterizes ignoring the potential for those tools to enhance learning as creating "reality free zones" in which students are

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[11] Alan November, *Students as Contributors: The Digital Learning Farm*, available at http://novemberlearning.com/resources/archive-of-articles/digital-learning-farm/ (last visited July 7, 2010) (attached hereto as Exhibit 1).

[12] Id.

[13] *Id.* Mr. November identifies six examples of "jobs" educators can give to students to enhance their learning while enabling them to contribute in meaningful ways to learning communities. They include: (1) tutorial designer, (2) official scribe, (3) researcher, (4) collaboration coordinator, (5) contributor to society team member, and (6) curriculum reviewer.

[14] Alan November, *Banning Student Containers*, available at http://novemberlearning.com/resources/archive-of-articles/banning-student-containers/ (last visited July 7, 2010) (attached hereto as Exhibit 2).

[15] Id.

less engaged and less self-directed.[16] Mr. November acknowledges that modern "Web 2.0" tools can be a distraction from learning, but argues that "they can be a major catalyst" to learning that hold the potential to "empower students to be lifelong learners and active shapers of a world we cannot yet imagine."[17]

The Speak Up National Research Project finds that "our nations' K-12 students are increasingly taking responsibility for their own learning, defining their own education path through alternative sources (and tools), and feeling not just a right but a responsibility for creating personalized learning experiences, often bypassing the traditional classroom and school structure. "As we continue our local and national discussions about creating learning environments that will engage students and enhance student achievement, perhaps we should begin to ask are our schools and districts ready to accommodate the desires that this next generation of teachers have for truly 21st century, technology-enabled and empowered classrooms."[18] Campus wide interactive internet access is at the cornerstone of the new student vision for learning, supported by the ability for students to access their work and classroom resources anytime and anyplace.[19] Schoolwires believes, without a hosted web environment that integrates the technologies and resources for easy accessibility and use as well as providing a 24x7 learning environment, that districts and schools will not be able to support this vision.

Data published by the Speak Up National Research Project substantiates Mr. November's arguments.[20] The data was obtained through a survey of more than 368,000 students, parents, teachers, pre-service teachers, and administrators representing 5,757 schools across the United

[16] Id.
[17] Id.
[18] Project Tomorrow, *Unleashing the Future: Educators Speak Up about the Use of Emerging Technologies for Learning*, Speak Up 2009 National Findings, Teachers, Aspiring Teachers & Administrators, May 2010 (attached hereto as Exhibit 3)
[19] Id.
[20] Project Tomorrow, *Creating Our Future: Students Speak Up about their Vision for 21st Century Learning*, Speak Up 2009 National Findings, K-12 Students & Parents, March 2010 (attached hereto as Exhibit 4).

States.[21] The study reports that students consistently state that "the lack of sophisticated use of emerging technology tools in school is, in fact, holding back their education and . . . disengaging them from learning."[22] Key tools identified for enhancing students' learning in ways that more closely mirror students' self-directed learning efforts include: (1) social-based learning, (2) untethered learning tools, and (3) digitally rich learning.[23] All are only accessible through the communications backbone provided through web hosting.

Students consistently reported that they use social media to collaborate with other students, to find information and experts on topics they study in school and to learn about subjects that interest them. Similarly, 60% of parents ranked schools' websites as their "top choice for driving student achievement," providing direct access to information and to their children's' teachers. Untethered learning focuses on access to Internet resources and the devices today's students use on their own to access educational and entertainment content, ranging from iPods and cell phones, to laptops and e-readers.[24] Significantly, 38% of students said they were interested in taking a class online, and 52% reported that they had taken, or researched, a class taught at least partially online.[25] To achieve this, there must be access to the hub that delivers this service.

The third essential element, "digitally rich learning," continues Mr. November's theme of enabling students to use a range of digital media to produce and access educational content, noting that the "process of creating content from other content" is a key characteristic of today's digitally connected students who thrive on learning through "interactive experiences."[26] The

[21] *Id.* at 1-2.
[22] *Id.* at 1.
[23] *Id.* at 3.
[24] *Id.* at 8.
[25] *Id.* at 16.
[26] *Id.* at 20.

authors conclude that "the process of creation is as important and sometimes more important than the end result of the activity in a digitally rich learning environment."[27]

Most of us think of the Internet as "static web pages created by people with specialized technical skills."[28] The Internet students have made a part of their lives and their learning styles is anything but static, however, and tools abound for allowing students to actively contribute to the Internet's evolution in ways that dramatically enhance their education. This new and dynamic state of the Internet is often referred to as "Web 2.0."[29] Web 2.0, made possible in schools through web-hosting services, have enabled teachers to create a variety of engaging online learning activities for students,[30] including furthering students' understanding of art and making art,[31] sustaining student engagement in health education through blogging,[32] fostering student 's learning of Shakespeare with YouTube,[33] and encouraging more relevant classroom discussions by allowing students to post online comments regarding aspects of reading assignments they find confusing where they can express themselves anonomously.[34]

Research demonstrates that interactive learning using technology leverages "the curiosity and highly social nature of students [to] keep them in school."[35] A study that will be published in August concluded that "technology-infused classes such as Reading, Title I, English Language Learners and special education, were a significant factor" in reducing drop-out rates in a survey

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[27] *Id.* at 20.
[28] Brunsell, E. and M. Horejsi, *Introducing Science 2.0!*, Science Teacher, 77(1): 12-13.
[29] Id.
[30] Brunvand, S. and H. Abadeh, *Making Online Learning Accessible: Using Technology to Declutter the Web*, Intervention in School and Clinic, 45(5): 304-311.
[31] Buffington, M.L. (2008). *Creating and Consuming Web 2.0 in Art Education*, Computers in the Schools, 25(3): 303-313.
[32] Burke, S. and J. Oomen-Early (2008), *That's Blog Worthy: Ten Ways to Integrate Blogging into the Health Education Classroom*, American Journal of Health Education, 39(6): 362-364.
[33] Desmet, C. (2009), *Teaching Shakespeare with YouTube*, English Journal, 99(1): 65-70.
[34] Ikpeze, C.H. (2009), *Writing for Real Purpose*, Learning & Leading with Technology, 36(7): 36-37.
[35] Study Shows Which Technology Factors Improve Learning: Project RED, PRWEB, June 28, 2010.

of 997 schools nationwide.[36] "The most important factor … in reducing drop-out rates is using technology frequently in intervention classes."[37]

Teachers themselves confirm that access to technology in the classroom yields positive effects on students' learning. In a survey of 1,000 students completed by the Riley College of Education and Leadership, teachers consistently reported that technology engages many types of students regardless of learning style, language barriers and academic needs.[38] As Arne Duncan, U.S. Secretary of Education stated earlier this year, "students must be fully engaged. This requires the use of technology tools and resources, involvement with interesting and relevant projects . . . [E]ducators must be given and be prepared to use technology tools; they must be collaborators in learning—constantly seeking knowledge and acquiring new skills along with their students."[39] Web-hosting services enable the kind of collaborative mutual learning that Secretary Duncan referenced.

Schoolwires presents this information to the Commission to show how teachers are increasingly using technology to offer interactive and collaborative learning experiences and to extend learning opportunities beyond the classroom. Web hosting provides the access to this technology. If the Commission eliminates web hosting as an E-rate eligible service, teachers and their students may lose access to the ability to use these learning tools. Web hosting service is the foundation for use of these learning tools and is therefore, without a doubt, integral, immediate and proximate to the education of students.

C. Student Safety and Health

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[36] Id.
[37] Id.
[38] Educators, Technology and 21st Century Skills: Dispelling Five Myths: A Study on the Connection Between K-12 Technology Use and 21st Century Skills, The Richard W. Riley College of Education and Leadership, Walden University, PRNewswire, June, 2010, p. 14, available at: http://www.waldenu.edu/Documents/Degree-Programs/Full_Report_-_Dispelling_Five_Myths.pdf (last visited July 8, 2010).
[39] *Id.* at 5.

Student safety is an essential responsibility of school districts. Not only do school districts rely on their websites to make vital information about school closings and weather-related schedule changes available to parents, but school districts depend on website tools to provide information about health and safety emergencies to parents and students on an immediate basis. Web postings and electronic alerts inform and update parents and the community when school lock-downs or evacuations are necessary due to natural disasters or other emergencies (gas leaks, power outages, and meningitis outbreaks, for example) that jeopardize student health and safety. As set forth in the attached customer testimonials and customer survey responses, a reliable web hosting service serves a key role in a school district's crisis preparedness, management, and communication program.[40]

D. Environmental Impact

Ninety-seven percent of respondents to Schoolwires' survey indicated that school websites increase efficiency and reduces paper and printing costs**.** As evidenced by the attached survey responses, the contribution of web hosting to global "green" efforts is clear.[41] The ability of teachers and school district administrators to provide internet access to the district/school to post material (from announcements to homework assignments) dramatically cuts down on the paper, ink, postage, and electricity necessary to produce hard copy mailings and handouts. While this benefit may be an ancillary consideration in this proceeding, its value should not be overlooked by the Commission.

IV. WEB HOSTING: GROWING NEEDS

Ninety-seven percent of respondents to Schoolwires' survey said that web hosting is now more important to the success of their school district than it was in 2003 when web hosting was

[40] *See* School District Safety Impact Stories (attached hereto as Exhibit 5) and School District Impact Stories (attached hereto as Exhibit 6).
[41] *See* School District Impact Stories (attached hereto as Exhibit 6).

added to the ESL as a Priority 1 Service. Schools hosted by Schoolwires have experienced a significant increase in community visitor traffic and engagement.[42] Over the last decade, many school districts have acquired diverse technologies and systems in response to discrete needs. These individual systems and applications often do not work well with each other. Systems are fragmented, data exists in silos, and processes are not cohesive. School districts must expend valuable resources to manage the inefficiencies of these disparate systems. As demand from teachers, students and parents for web-based communication and instruction increases, school districts must have a web hosting service that provides access to a unifying hub for their technology needs. A unified platform enables single sign-in access, simplifies teacher and administrator access to resources, ensures secure data protection across applications and is technology-agnostic so that various applications and software can be integrated.

V. UNDERSTANDING THE COST AND VALUE OF WEB HOSTING SERVICES

Opponents to the E-rate eligibility of web hosting service assert that inexpensive, commercially available web hosting services should be sufficient for the needs of school districts. They imply that web hosting services tailored to the K-12 community, and delivered by companies like Schoolwires, are unnecessary and represent an inefficient use of E-rate funds.[43] To examine this claim, the Commission needs to understand the various web hosting service levels offered by providers and the range of costs associated with those services. For instance, enterprise-class privacy, security, availability during emergencies, and standards are critical requirements for school districts. Because of the quickly growing trend for school districts to

[42] Schoolwires had 1,175,183,593 page views and 447,456,005 website visits in 2009. Based on Janaury-June traffic, Schoolwires estimates that it will have at least 1,331,097,712 page views and 570,733,744 visits in 2010.

[43] *See* SECA 2010 ESL Public Notice Reply Comments at 3. SECA claims that K-12 web hosting vendors are charging fees for eligible web hosting features that are significantly higher than web hosting fees charged in other market sectors. SECA *2010 ESL Public Notice Comments* at 15-16.

use the website as a vehicle to communicate, collaborate and engage with the community and stakeholders, a significant amount of user traffic is received. This significant level of utilization requires a dedicated and specialized infrastructure to ensure scalability, performance and reliability standards. Schoolwires provides a centrally managed enterprise-level hosting infrastructure with secure data and facilities protection that are continually monitored. School districts are subject to privacy requirements and must maintain a secure environment for data regarding their schools, students and families. Schoolwires has total control over the environment and servers that store school district data. Access to a school district's data is limited, protected and audited, unlike the services that are offered by other commercial web-hosting companies such as Go Daddy, Yahoo!, Register.com and Network Solutions. As recommended below, before the Commission makes any changes to the E-rate eligibility of web hosting service, it should develop a full understanding of (1) the role the service performs as a secure and unifying hub for the variety of educational technologies and resources used by school districts and all ages of students and parents; and (2) the cost effectiveness of tailored web hosting services to K-12 school districts.[44]

VI. EXPECTED IMPACT IF WEB HOSTING IS REMOVED FROM THE ELIGIBLE SERVICES LIST OR RECLASSIFIED AS A PRIORITY 2 SERVICE

A reliable and secure web hosting service is a requirement for school districts. If the Commission eliminates web hosting service from the ESL, school districts will need to locate funding for their website hosting from their existing and limited budgets. Moving to a lower cost alternative is not a viable option for most school districts given the importance of having a

[44] For example, Loudoun County Public Schools in Virginia, which has 70 schools, receives approximately $18,000 for E-rate for web hosting services. This translates to approximately $257 per school on an annual basis, or $21 per school on a monthly basis. Drilling down further, it is about 3.5 cents per student per day – about the price of one or two packets of ketchup.

reliable and secure platform that they can trust has mechanisms in place to prevent the loss of data or security breaches. Budgets are strained already, particularly in economically distressed rural and urban school districts. Any shift of school district resources will certainly affect students, either directly through cuts to supplemental educational programs, or indirectly through cuts in other areas. Some districts have indicated to Schoolwires that these cuts could be in the form of staff reduction or elimination of academic programs. "Providing reliable, secure and ongoing communications with our constituents is critical to the success of our district and our students," says Wayde B. Byard, Public Information Office, Loudoun County Public Schools. "And the avenue for these communications is our portal supported by off-site hosting."

VII. CONCLUSION AND RECOMMENDATIONS

Schoolwires urges the Commission to reconsider its tentative decision to eliminate web hosting as an eligible service under the E-rate program. Schoolwires has shown through these comments that the basis for this decision - that web hosting is not essential to the educational purposes of schools and libraries - is not true. Eliminating web hosting as an eligible E-rate service will have a profound impact on the ability of school districts to address the academic and strategic imperatives that are critical to the success of each and every student they serve. This is counter to the goals established by the current administration to improve educational outcomes for students.

Schoolwires proposes that the Commission address concerns surrounding what aspects of web hosting should be eligible, how these components can be clearly defined in the ESL, and whether the current cost allocation process is adequate

Schoolwires proposes that the Commission continue to fund web hosting as a Priority 1 eligible service while concurrently and immediately establishing a collaborative process to work

with service providers and school districts to explore and examine what broad changes should be implemented to better align E-rate funding with the needs of school districts to improve student and teacher performance through the use of technology. Such an analysis would address the specific questions raised by the Commission surrounding what aspects of web hosting should be eligible, how eligible components can be clearly defined in the ESL, and whether the current cost allocation process is adequate in a broader context that considers the use of technology in today's educational environment. This type of forum would ensure that changes to the program (a) are consistent with the way schools and school districts are using/can use technology today to meet the needs of students, teachers, parents, and administrators; (b) provide some flexibility for school districts within specific funding parameters to offer internet-based access and services designed to improve learning outcomes in a profound way; (c) produce a framework that is understood by both vendors and applicants; and (d) set clear parameters that will enable the Commission to more easily validate that E-rate support is being used for eligible purposes. Schoolwires is ready and willing to work with the Commission on such efforts and would be eager to solicit the participation of a core team of school districts of various sizes, budgets, and geographic locations.

Respectfully submitted,

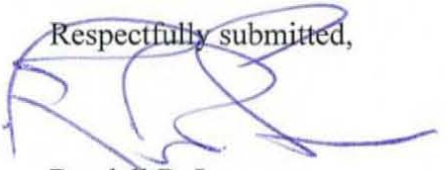

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EXHIBIT 1

Students as Contributors: The Digital Learning Farm

by Alan November

Years ago, when farms dominated our landscape, children were responsible for performing meaningful jobs that were vital to each family's success. Depending on their age, children would care for animals, repair farm equipment, prepare food to sell at local markets, and more. Children were essential to the very survival of the family. At the same time, these jobs taught children the value of hard work, leading them to become more productive citizens within their communities as adults.

As mechanized tools and other advances developed, the work of children was replaced. To prepare for the industrial economy, students were required to attend school where teachers became central figures and where children took on more passive roles within their communities. Children's contributions to their community shifted to the responsibility of completing schoolwork. This continuing trend contradicts a fundamental human need that draws us to make contributions to our communities.

We have come full circle as globalization quickly becomes the norm, and it may now be essential for our students to compete with peers from around the world. Today, we can restore the dignity and integrity of the child as a contributor.

Across the country, pioneering teachers are providing students with new roles that have students contributing to their learning communities. We have powerful, easy-to-use tools such as screencasting and podcasting that give students opportunities to contribute content to the class. At the same time we can also provide them with rigorous and more motivating assignments and better prepare them to become more productive in our new global economy. It's an exciting time.

The six jobs described below outline creative ways that your students can make valuable contributions to their learning community. While these jobs can be successfully implemented individually, it is in bringing them together in harmony that we can create a more balanced vision of teaching and learning.

TUTORIAL DESIGNERS

Students from Lincoln Middle School in Santa Monica, California, have energized their school through the use of screencasted tutorials. Through the leadership of their teacher, Eric Marcos, these kids have begun documenting their learning by recording themselves solving problems based on material discussed in class.

Marcos has been using Camtasia (www.techsmith.com) with his class to allow students to record the actions being preformed on their computer screens while also recording their explanations about how to solve each problem. When completed, these movies are uploaded and become part of an online database that Marcos' students—and anyone else around the world—can access at any time. Another option by TechSmith that is free and equally as powerful is Jing (www.jingproject.com). With this software, and a single click of the mouse, students can begin recording their work easily and at any time.

Marcos has found this task to be so motivating that he has worked to build a new YouTube-like Web site (www.mathtrain.tv) that he and the rest of his school's math department use to share the growing number of screencasts that students are creating. He has found that allowing students to create material for this site increases engagement and provides struggling students with more opportunities for reviewing troubling concepts.

OFFICIAL SCRIBES

Do all of your students take excellent notes every day? What if there were online collaboration tools that would give your class the opportunity to collaboratively build one set of perfect notes? Using a shared blog, wiki, or another collaborative writing tool like Google Docs (http://docs.google.com) students can share this responsibility and create a detailed set of notes that the entire class can use.

Darren Kuropatwa, a high-school calculus teacher, has transformed his classroom from individual students working on "their stuff" to a collaborative learning community. His "scribe of the day" program (http://adifference.blogspot.com/2006/11/distributed-teaching-and-learning_21.html) has been a great success. Each day, a new student is responsible for taking notes and collecting diagrams that become part of his class' online calculus textbook.

Kuropatwa has found success with this program, as students who never took notes in the past are now doing so knowing that their peers depend on what is published on the class blog. At the same time, students who struggle to take good notes are getting better as they see constant high-quality models being posted by others.

RESEARCHERS

Many classrooms have one computer sitting in the back that gets very little use. What if that computer became the official research station where one student each day was responsible for finding answers to all the questions in class—including the teacher's?

This might not sound imaginative, but it can be very effective. Each day, assign a different student to sit by that computer. When questions come up during class, it is that student's responsibility to search out the correct answer. Once sites are found that give details about the questions being asked, you might consider adding it to your own search engine built using Google's Custom Search Engine creator (www.google.com/coop/cse/).

This search engine can be designed to meet standards, coordinate with your curriculum, and include sites from reputable resources. Imagine creating a Global Warming Search Engine that cuts through the hype on both sides of the issue and only accesses factual information from NASA, NOAA and other scientific research organizations.

Don't expect this to work easily right from the beginning. Most educators know that there is a great amount of misinformation online and acknowledge that students don't always use the most effective search techniques. Understanding this makes this student job that much more important. We should be providing students with guided opportunities and teachable moments that allow them to practice and hone their research skills.

COLLABORATION COORDINATORS

Not long ago it was cost prohibitive to have your class connect with other classes and subject experts around the world. That time is gone! In an ever-shrinking world, we now have free access to make these very connections.

Using Skype (www.skype.com), a collaboration team could be responsible for establishing and maintaining working relationships with classrooms around the world via the Internet. How can you leverage that power?

Prior to a discussion of the American Revolution, charge your collaboration team with finding a class of British students who would be willing to interact with them concerning the issues that led to the start of the Revolutionary War. How many eyes do you think would be opened by the differing views that arise during the debate?

Connections can also be established with experts who might be willing to talk to your students regarding other meaningful topics. For example, middle school students from one Chicago suburb

were learning about the effects of globalization. Their teacher, Andrea Trudeau, could have provided students with only a short passage from a textbook or a few magazine articles. Instead, she facilitated a project that had her students creating interview questions for an American factory owner who felt he had to outsource his production to China as well as a businessman in China who was managing a factory for the American market (http://dps109.wikispaces.com/Skype).

The questions the students developed became a part of a series of interviews that were recorded and provided students with a learning experience that went far beyond any textbook or article. This project attracted a global audience, including a teacher in the United Kingdom who repurposed this material with his class as they were discussing similar issues.

Hundreds of other opportunities like this are waiting for any adventurous group of students looking for opportunities to bring the world into the classroom.

CONTRIBUTING TO SOCIETY

It's almost impossible to watch TV or listen to the radio today without hearing about issues in countries around the world. While they do seem distant, these issues are important, and we can use them to teach students about social justice and empathy.

Kiva (www.kiva.com) is one of today's most important social responsibility Web sites. This site opens the doors of learning and gives students the opportunity to make a small but meaningful difference in the lives of others.

Through this site, your class can join others in making small loans to entrepreneurs in developing countries who are trying to make better lives for themselves and their families. These loans are repaid over time as students are kept up to date on the successes and struggles of those to whom they have invested contributions.

You might consider pulling together a team that searches out investments the class finds important and relates to their current studies. They might organize snack sales or penny drives while educating other classes about their mission. This team then works with the research team to investigate what is happening in these other parts of the world. They might work with the collaboration coordinators to find experts whom they can talk to about how loans work.

The learning cycle can go on and on as loans are repaid and reinvested. Your students can be tracking the results of their micro-investments long after the school year has ended.

CURRICULUM REVIEWERS

As the resources above come together, the curriculum review team jumps into action to create material that can be used for continuous review. This team combines visual and audio components into podcasts that can be posted online for individuals to download into their mp3 players.

Bob Sprankle and his class from Wells Elementary School in Wells, Maine, are quite well known for doing exactly this. Their Room 208 Podcast burst onto the scene several years ago and provided classes with a fantastic model that can be duplicated by others. Weekly, during their snack time, Sprankle's students organized, recorded and edited their podcasts before publishing them to a global audience (www.bobsprankle.com/podcasts/0506/rm208vodcast.mov).

If you plan to attempt this, you may want to get your school to purchase a few generic mp3 players that can be used by students who might not have their own. These devices can be loaded up at school with podcasts that cover multiple courses, and the material on these players can be accessed anywhere, at any time.

CONCLUSION

In some ways, the idea of the digital farm and the jobs outlined above is counter to the current policies of many schools where community tools are routinely blocked on the network. The opportunity before us is much too valuable for this to continue.

If our children are to grow up to make important contributions to our society, it is essential that we provide them with powerful tools and experiences across the curriculum. This will require a new culture of teaching and learning that engages students as contributors. Our students have already chosen tools such as MySpace and Facebook for their own communications and social interaction. Now is the time to take elements of these tools and provide students with the appropriate role models of how to use them to make important and rigorous contributions to their own school and beyond. If we do not teach students social responsibility and ethics, then our worst fears of children abusing these tools will come true.

EXHIBIT 2

Banning Student Containers

by Alan November

When my 17-year-old son, Dan, comes home from school he shouts hello, heads right to his laptop, and logs on to IM. His buddy list is maxed out. His syntax and grammar would make most English teachers recoil in horror. While he's sending quick notes to his friends he adds photos to his blog, checks the comments from his global audience, and snaps mini earphones into his iPod.

Later he switches his mini earphones for some serious sound-canceling ones, picks up his guitar, and Skypes with his buddy the drummer, who lives across town, for a live jam session. Both musicians can record the session on their own laptops for immediate feedback. (Skype certainly saves gas and the exhaustion of hauling amps or drums.) When he is not creating entertainment and publishing for the world, Dan taps YouTube for his favorite Monty Python skits. He is in his zone.

After playing and recording his music, Dan is allowed to play nonviolent video games. He studies the moves of his own draft picks on the soccer field in EA Sports FIFA07. Any adult would have to look twice to make sure it's not a live televised game—the animation is awesome. You can hear Dan from two floors down: "Did you see that goal?!" He is totally engaged and in charge. He even directs his own instant replays.

With Xbox Live he can play in online leagues with soccer fans anywhere in the world. He puts on his microphone and headset, signs on, and the games begin. Twenty-four hours a day, Dan can find players who would just love to beat him. While they play they share hot tips on movies and the latest CD releases. Getting to sleep with all of this stimulation is a problem.

Dan has five basic tools, or digital containers, for managing his content, communicating with the world, and accessing his entertainment: blogs, his iPod, Instant Messenger, YouTube, and video games. Of course he also has a cell phone, which he often sneaks into school to text message me about how debate went that day. Otherwise, he has no access in school to the tools he loves to use. In fact, he has been taught that they have nothing to do with learning.

At home he picks his applications and easily moves from one to another. He is self-taught, self-directed, and highly motivated. He is locally and globally connected.

SCHOOL AS "REALITY-FREE" ZONE

But it is safe to say that Dan is not totally engaged at school. He is not self-directed or globally connected. For instance, he isn't allowed to download any of the amazing academic podcasts available to help him learn, from "Grammar Girl" to "Berkeley Physics." He is not connected via Skype to students in England when he is studying the American Revolution, for example,which might create an authentic debate that could be turned into a podcast for the world to hear.

He cannot post the official notes that day so those who subscribe to his teacher's math blog via an RSS feed can read what's going on in his class. His assignments do not automatically turn into communities of discussion where students help each other at any time of the day. His school has successfully blocked the cool containers Dan uses at home from "contaminating" any rigorous academic content. It is an irony that in too many schools, educators label these effective learning tools as hindrances to teaching.

NO CONTAINERS ALLOWED

What have we done? We, as educators, have decided that the tools or containers that Dan uses when he is home are inappropriate for school and learning. We have decided that because we do not like the content students produce on blogs without adult supervision we will not let them near a blog, even with adult supervision. What do we think would happen to student motivation if we actively tapped the containers our students want to use? Educators should co-opt them. What if we had blocked all use of paper at one point because, early on, a student had written some inappropriate content without a teacher's guidance?

If we could get past our fear of the unknown and embrace the very tools we are blocking (which are also essential tools for the global economy) then we could build much more motivating and rigorous learning environments. We also have an opportunity to teach the ethics and the social responsibility that accompany the use of such powerful tools. For example, many students do not realize that once something is on the Internet it has the potential to follow them for the rest of their lives.

THE MOVERS

As is always true with breakthroughs, a few pioneers are leading the way. Log on to Bob Sprankle's Web site (http://www.bobsprankle.com/podcasts/0506/rm208vodcast.mov), where third-grade students in Wells, Maine, are teaching the rest of us how to turn eight year olds into teams of power-

ful digital editors, researchers, and publishers—doing it all during snack time on Mondays. Darren Kuropatwa's pre-cal and calculus students at Douglas McIntire High School in Winnipeg, Manitoba, are authoring daily notes being accessed by people in six continents at (http://pc40s.blogspot.com). Natalie Watt has taught her third graders in New Orleans how to deeply understand the inner-workings of Wikipedia by organizing the class to publish an article about a local historic mansion, the Pitot House, on the site. At Washington International School in Washington, D.C., a high school student spent a good part of his summer building an amazing three-dimensional computer model of the library being planned by the school. This is just a sampling of what happens when we tap the containers our students want to use.

The ability to harness the power of Web 2.0 tools wouldn't be as critical if it were not for the fact that we are educating our students to succeed in a globally connected economy. People around the world have access to our job market via the Internet (read The World is Flat by Thomas Friedman for more on this). We should all be feeling a sense of urgency.

As we provide our students with models of how to use their digital containers for learning, the role of the teacher will be more crucial than ever. The fact remains: These tools can be a major distraction from learning or they can be a major catalyst to it. It will be the courageous educator who works with students to explore the power of these tools and in turn empowers students to be lifelong learners and active shapers of a world we cannot yet imagine.

EXHIBIT 3

Unleashing the Future:

Educators "Speak Up" about the use of Emerging Technologies for Learning

Speak Up 2009

National Findings

Teachers, Aspiring Teachers & Administrators

May 2010

Project Tomorrow

www.tomorrow.org/speakup/

Speak Up

Overview

Technology has enabled students to have greater access to vast array of resources, classes and experts; empowering students to become "Free Agent Learners" who are creating meaningful personalized learning experiences 24/7 outside of the traditional classroom and school structure.

In the report *Creating our Future: Students Speak Up about their Vision for 21st Century Learning*, Project Tomorrow (2010) outlined compelling evidence that students are using technology to take responsibility for their own learning, often times bypassing traditional educational settings. As "Free Agent Learners," students use technology to personalize their learning experience to meet their individual learning styles and interests. Students, however, are also interested in incorporating these types of learning experiences in their classroom. The students shared a vision for 21st century learning that includes these three essential elements:

- **Social-based learning** – students want to leverage emerging communications and collaboration tools to create and personalize networks of experts to inform their education process.
- **Un-tethered learning** – students envision technology-enabled learning experiences that transcend the classroom walls and are not limited by resource constraints, traditional funding streams, geography, community assets or even teacher knowledge or skills.
- **Digitally-rich learning** – students see the use of relevancy-based digital tools, content and resources as a key to driving learning productivity, not just about engaging students in learning.

With the Speak Up Project in 2009, we endeavored to better understand how educators are responding to students' interest in a new paradigm for learning and how they may already be leveraging technology to facilitate digitally-rich learning environments where students have opportunities to learn collaboratively, with classmates or experts, anytime or anywhere. This report explores the views of teachers, principals and future teachers collected during Speak Up 2009 and highlights how they use, and aspire to use, emerging technologies for teaching and learning.

Speak Up 2009 reveals that the effective integration of technology within instruction is important to both district administrators and principals. Overwhelmingly, over 90 percent agree that the effective implementation of instructional technology is important/extremely important to their mission. In fact, over one-half of district administrators report that the use of technology within instruction is one of their most significant challenges; the type that is most likely "to wake them up in the middle of the night." In response to this priority, district administrators are beginning to build an infrastructure that will enable teachers (and students) to create socially-based, un-tethered, digitally rich learning environments. Supporting this vision, the top technology tools that administrators believe have the greatest potential to enhance student achievement include: collaboration and communications tools, mobile computers (such as laptops and netbooks) for every student, online classes, campus wide Internet access, digital media tools and interactive whiteboards.

However, realizing this vision is not without challenges, administrators struggle to develop effective policies that enable students to gain greater access to learning resources beyond the school walls, and to secure the funding to purchase technology, provide professional staff development and offer long-term curriculum and technology support.

It is, therefore, essential that schools and districts continue to make investments in technology as the Speak Up data reveals new attitudes and values about the impact of technology on both the learner and the teacher. While many teachers are using digital media tools (66 percent), digital resources (46 percent) and games (42 percent); they are lacking access to mobile computers or devices for every student and consistent, reliable Internet access in their classroom.

Teachers tell us that as a result of using technology in the classroom students are more motivated to learn (51 percent), apply their knowledge to practical problems (30 percent) and take ownership of their learning (23 percent). Teachers also report that by using technology students are developing key 21st century skills including creativity (39 percent), collaboration (30 percent) and skills in problem-solving and critical thinking (27 percent); thus, effectively preparing them for future success in the workplace and the global society. Teachers also see changes in their teaching practice as a result of technology integration within instruction. Over one-third of the teachers tell us as a result of classroom technology they are more likely to encourage students to be self-directed, facilitate student centered learning and create more relevant and interactive lessons. The learning experience becomes more meaningful for the student as teachers have new found time to differentiate instruction (31 percent) to a greater degree, and have more access to information about how their students are doing academically (29 percent).

Since fall 2003, Speak Up has documented how students embrace the use of technology outside of school, and their desire to use the same technology to learn. Technology has enabled students to personalize their learning, collaborate with their peers, take classes online, and locate experts or resources to gain a better understanding of a subject they are studying. Perhaps, it is time that we listen to our students and utilize the technology to create opportunities that will challenge and stimulate them while nurturing their love for learning. By thinking strategically, updating our policies and leveraging the potential resources afforded through the current national and state funding streams we have a unique opportunity to re-engage students in their learning. This report, serves as a companion to *Creating our Future: Students Speak Up about their Vision for 21st Century Learning*, and highlights the views of 1,987 future teachers, 38,642 teachers and 3,890 principals and 633 district administrators collected during Speak Up 2009.

About the Speak Up National Research Project and Speak Up 2009

Speak Up is a national initiative of Project Tomorrow, the nation's leading education nonprofit organization dedicated to ensuring that today's students are well prepared to be tomorrow's innovators, leaders and engaged citizens. Since fall 2003, the annual Speak Up National Research Project has collected and reported on the views of over 1.85 million K-12 students, teachers, administrators and parents representing over 23,000 schools in all 50 states. The Speak Up data represents the largest collection of authentic, unfiltered stakeholder input on education, technology, 21st century skills, schools of the future and science and math instruction. Education, business and policy leaders report using the data regularly to inform federal, state and local education programs.

Demographics of reporting sample

In fall 2009, Project Tomorrow surveyed 299,677 K-12 students, 26,312 parents, 38,642 teachers, and 3,947 administrators representing 5,757 schools and 1,215 districts including public (97 percent) and private (3 percent) schools. Schools from urban (38 percent), suburban (31 percent) and rural (32 percent) communities were represented. Over one-half of the schools that participated in Speak Up 2009 were Title I eligible (an indicator of

student population poverty) and 42 percent have more than 50 percent minority population attending. The Speak Up 2009 surveys for K-12 stakeholders was available online for input between October 18, 2009 and December 18, 2009.

The K-12 surveys included foundation questions about the use of technology for learning, 21st century skills and schools of the future, as well as emerging technologies (online learning, mobile devices and digital content), math instruction and STEM career exploration. In addition, educators shared the challenges they encounter integrating technology into their schools and districts.

For the first time, Project Tomorrow also surveyed 1,987 college students enrolled in teacher preparation programs. Speak Up for Aspiring Teachers was open for input November 4th, 2009 through February 14th, 2010. Participating college students represented seventy-one different colleges with 69 percent of the students reporting themselves as undergraduates in education or related majors or teacher preparation programs and 31 percent in graduate programs. Of the participating colleges, 89 percent were 4-year public institutions and 6 percent were 4-year private institutions.

The Speak Up surveys for aspiring teachers sought to collect the views of the next generation of teachers on the role of technology in their personal lives as well as within their preparation programs, and their aspirations for using technology in their future classrooms. We believe that the data from this stakeholder group is important to the national discussion on how to effectively create new classrooms and learning spaces that will prepare students for future success.

The data results are a convenience sample; schools, districts and colleges self-select to participate and facilitate the survey-taking process for their students, educators and parents. All schools, districts or colleges in the United States are eligible to participate in the annual research project. To minimize bias in the survey results, Project Tomorrow conducts significant outreach to ensure adequate regional, socio-economic and racial/ethnic/cultural distribution. To participate in Speak Up, organizations register to participate, promote the survey to their constituents and schedule time for their stakeholders to take the 15-minute online survey. Starting in February 2010, all participating organizations receive free, online access to their data with comparative national benchmarks. Staff from Project Tomorrow summarize, analyze, and verify the national data through a series of focus groups and interviews with representative groups of students, educators and parents.

This report highlights the views of 1,987 future teachers, 38,642 teachers and 3,890 principals and 633 district administrators collected during Speak Up 2009, and include comparative K-12 student data findings where appropriate.

Creating a vision for 21st century learning

Overwhelming, district administrators (90 percent) and principals (92 percent) report that the effective implementation of instructional technology is important/extremely important to their mission. Further analysis reveals that district administrators (60 percent) are more likely than principals (55 percent), teachers (38 percent) or future teachers (38 percent) to believe the integration of instructional technology is extremely important to their district's core mission.

Over one-half of district administrators reported that the use of technology within instruction was one of the challenges most likely to "wake you up" in the middle of the night, just below adequate funding (66 percent). By comparison, principals reported student achievement (55 percent) and adequate funding (51 percent) as their two top challenges. Integrating the use of technology within instruction ranked seventh on the principal's list (out of 21 challenges), suggesting that district administrators are setting the pace and vision for the integration of technology within their district's schools.

To gain a better understanding of the administrator's vision for learning, the Speak Up survey asked administrators to reflect on Clayton Christensen's predictions about teaching and learning, from the book *"Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns,"* and to share their vision for 2019. **"What will teaching and learning look like in your school or district in 2019? What technologies will be pervasive? Will the role of the teacher be different? Will students have different expectations for learning experiences? What are you doing today that can help position your school or district to be successful in 2019**?" Interestingly, administrators painted a vision very similar to what we heard from the students:

"In 2019, I predict that schools will be beyond the boundaries of four walls. All students in grades 2-12 will have laptops or devices that will allow any hard surface to become a computer. Anytime, anyplace learning will be the norm. Printed materials, such as textbooks and library books will be replaced with digital readers that can hold thousands of books." CTO/CIO/Technology Supervisor (AL)

"Cell phones (or their replacements) will be used in the classroom. Teachers will have more technology at their disposal and textbooks will be rare." Principal (AL)

"Teaching will go beyond school walls and involves exploration around the world via technology…" Principal (AL)

"I believe that education will finally evolve into an interactive learning process." Principal (TX)

In fact, when asked to design the ultimate school of the future there are several significant similarities in the top five picks for middle and high school students, principals and district administrators (see Table 1). Common elements include communications and collaboration tools and mobile computers for every student. While, online textbooks didn't make the top five list for principals or district administrators, demand for online textbooks as a potential tool for driving increased student achievement increased from 39 percent in Speak Up 2008 to about one-half of administrators in Speak Up 2009. Likewise, online classes are a top pick for district administrators (58 percent) with only a slightly lower ranking on the priority list of principals (44 percent) and students (50 percent). Students continue to see the potential transformative impact of games and virtual simulations for learning and tell us that these tools help them connect content with the real world and give them opportunities to apply their knowledge, test their assumptions and take risks in a safe environment. By comparison, only about one-quarter of the district administrators and principals selected games and simulations for inclusion in their ultimate school.

Table 1: Top technology picks for the ultimate school

Middle and High School Students	Principals	District Administrators
Communications tools (61%)	Interactive white boards (60%)	Collaboration Tools (67%)
Digital media tools (60%)	Mobile computer for every student such as laptop, mini-notebook, tablet PC (58%)	Mobile computer for every student such as laptop, mini-notebook, tablet PC (66%)
Online textbooks (58%)	Communications tools (55%)	Online Classes (58%)
Mobile computer for every student such as laptop, mini-notebook, tablet PC (57%)	Digital Media Tools (54%)	Campus wide Internet Access (57%)
Games or virtual simulations (56 %)	Collaboration tools (51%)	Interactive white boards (55%)

As principals and district administrators work toward greater integration of technology into classroom instruction, their primary challenges include funding to acquire new technologies (55 percent) or update the technology infrastructure (45 percent), staff professional development (46 percent) and on-going technical support (32 percent). District administrators (31 percent) and principals (23 percent) included data collection and reporting requirements on their "top five list" of challenges. Rounding out the "top five" were assessment of technology skills (35 percent) for district administrators, while principals selected evaluating emerging technologies for classroom use (24 percent). *Given the current landscape, how do administrators move from their current state to realize their new vision for 21st century learning?* Let's explore this further through the essential elements envisioned by the students and reported in "*Creating our Future: Students Speak Up about their Vision for 21st Century Learning*": social-based learning, un-tethered learning and digitally rich learning opportunities.

Essential Element 1: Social-based learning

Students want to leverage emerging communications and collaboration tools to create and personalize networks of experts to inform their education process.

Administrators "Speak Up" about learning in 2019…
"Teachers will be facilitators, helping students with finding information and collaborative groups for learning. Students will be constructing their own learning based on experience, research and collaboration using tools that will do away with walls and physical barriers."
Librarian (TX)

Students continue to tell us using technology to communicate and collaborate with their classmates and teachers helps them learn and enhances their experience. Technology has enabled students to reach out beyond the boundaries of their traditional circle of friends, classroom and school to seek new experts to add to their learning network. Ever adapting to new technologies students have moved beyond the use of email, and prefer to use communication tools that provide more instantaneous interaction such as IM or text messaging. They also communicate via their social networking profile, discussion boards and online chats (Project Tomorrow, 2010). *So how prepared are schools to provide opportunities for social-based learning?*

Are educators investing in and using technology to facilitate collaboration?

Facilitating meaningful social-based learning requires a supportive technology infrastructure, access to technology (provided by the student or school) and explicit opportunities for students to collaborate. Teachers (63 percent), principals (55 percent) and district administrators (54 percent) agree that communications tools should be an integral part of a 21st century school. Collaboration tools such as blogs, social networking sites, or wikis have a role in the ultimate school for district administrators (67 percent) and principals (51 percent); however, only 27 percent of teachers agree at this time. While administrators envision the potential for social-based learning environments, the Speak Up 2009 data suggests we're not there yet. Teachers are still more likely to communicate with their peers or students' parents (90 percent) rather than students (34 percent). However it should be noted that as we have seen with other technologies, teachers' personal use of technology tools and services often precedes the incorporation of these tools into classroom use. Interestingly, in the 2009 data we noticed a strong increase in teachers' personal use of social networking sites outside of school. In 2008, only 15 percent of teachers told us that they regularly updated a social networking site; in 2009, 48 percent are now social network users.

Do our future teachers hold promise for creating social-based learning environments? About one-quarter of responding future teachers report they are learning, in their teaching methods courses, how to use Internet-based (Web 2.0 tools such as, blogs, wikis, social networking and digital media) tools to facilitate collaboration between students. It appears from the Speak Up data that the primary skills being taught in the methods courses are around the use of productivity tools such as word processing, spreadsheet and database tools (53 percent).

How do we get there?

Effective use of social based learning depends upon a solid infrastructure and appropriate policies that leverage the potential of these tools to improve teaching and learning opportunities for all. Echoing students' frustrations about technology use at school, teachers also report their use of technology is circumvented by filters and firewalls (45 percent), lack of computers or tech equipment (41 percent) and slow or inconsistent Internet access (37 percent).

Essential Element 2: Un-tethered learning

Students envision technology-enabled learning experiences that transcend the classroom walls and are not limited by resource constraints, traditional funding streams, geography, community assets or even teacher knowledge or skills.

Administrators "Speak Up" about learning in 2019…

"Students can learn anywhere, home, school or on the road."

District Administrator (KY)

Students are already using mobile devices (such as cell phones, Smart Phones and MP3 players) to personalize their learning as they look up information on the Internet or access online textbooks, collaborate with their classmates, take notes, record lectures or video class presentations or experiments, or even play educational games – all without being tethered to a classroom or a computer lab. Students also are using mobile devices to enhance their personal productivity as they communicate with classmates and their teachers, receive reminders & alerts about tests and projects, organize schoolwork or create/share documents or media (Project Tomorrow, 2010). Yet, despite the increasingly widespread access that students have to these mobile devices and students' aspirations to use them within a wide range of learning situations, students continue to find resistance from teachers and administrators about the applicability of such devices at school. Middle and high school students report in Speak Up 2009 that the #1 obstacle to using technology at school is "I cannot use my own cell phone, Smart Phone or Mp3 player." This is in stark contrast to previous years; since Speak Up's inception in 2003, the primary obstacle reported by students has been "school filters and firewalls that block websites that I need." This significant change is illustrative of both the students' increased access to the devices but also the value that students are placing on such "computers in the pocket" as a learning tool.

Revolving around this discussion about the appropriate use of both mobile devices and mobile computers at school is a larger issue of Internet and network access.

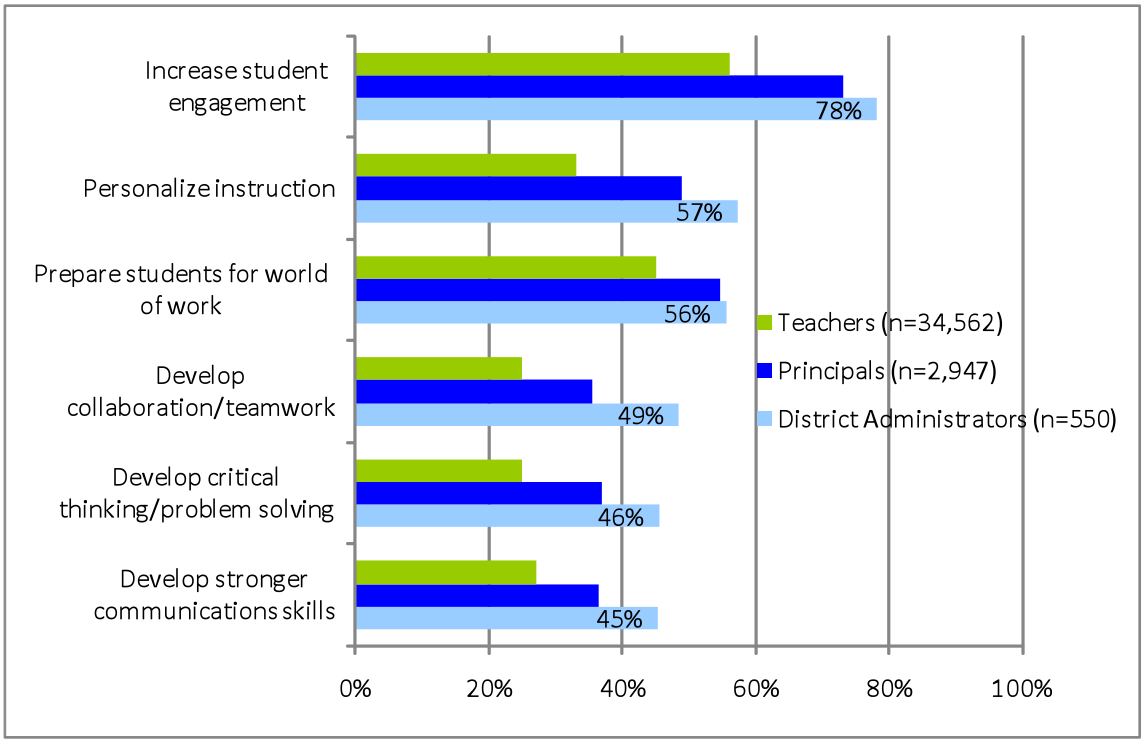
Opening the gates to campus-wide Internet access

As educators move towards addressing students' desires for un-tethered learning, administrators have to balance the competing demands of providing meaningful Internet-based learning experiences with parents' demands and federal and state guidelines for ensuring student safety on the Internet. Principals and district administrators are equally concerned with the district's current cell phone policies (55 percent), Internet safety and the district's subsequent liability (45 percent) and creating acceptable use policies (30 percent).

Unleashing learning with mobile devices

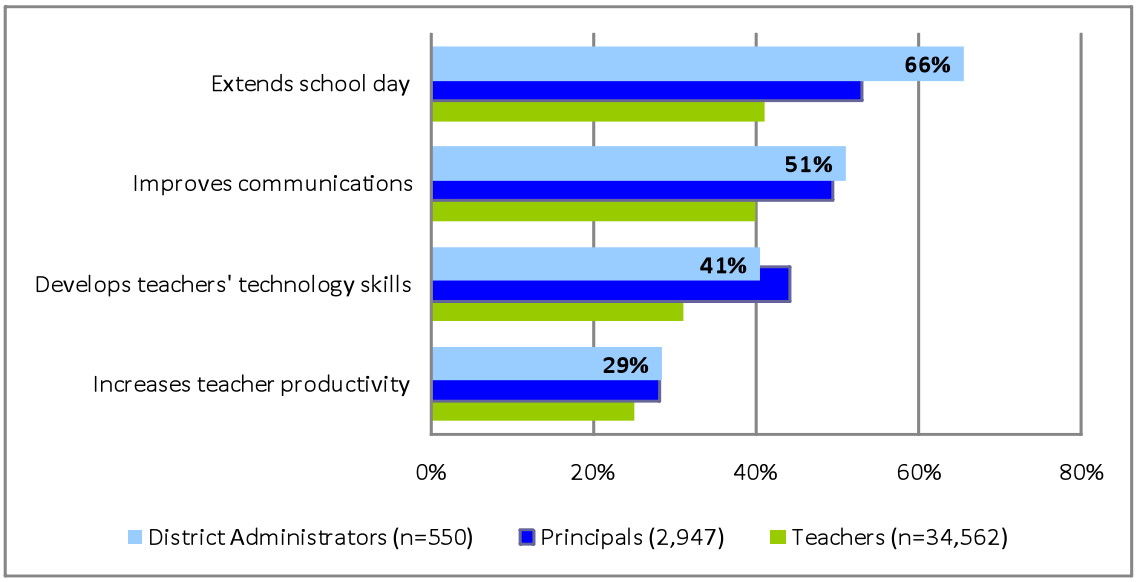
Overall district administrators are more likely then principals or teachers to recognize the value of using mobile devices for learning (Figure 1). The primary benefit cited by all audiences is increased student engagement; however, district administrators, principals and teachers to varying degrees recognize that mobile devices also support social based learning by enabling personalized learning and helping students develop work place skills in collaboration, teamwork, and communications.

Figure 1: Educators' Speak Up about perceived benefits of using mobile devices for instruction



Implementing mobile devices into instruction has the potential to serve a two-fold purpose by meeting both the needs of students and, at the same time, helping to develop teachers' capacity to further integrate technology into the classroom. First, using mobile devices provides an opportunity for administrators to extend the school day; thereby meeting the students' desire to learn anytime or anywhere. Secondly, investing in mobile devices has the potential to help teachers develop their own technical skills, and improve communications and productivity (Figure 2). *If educators are supportive of using mobile devices for learning, then what is stopping them?*

Figure 2: Mobile devices benefit students and teachers



Mobile devices are readily available, why aren't they being used for instruction?

Over 50 percent of middle school and high school students include mobile computers, such as a laptop, mini-notebook, or tablet PC, in the list of technology tools for their ultimate school. Even though educators see the value of integrating mobile devices into instruction, only a few teachers are currently using mobile devices (10 percent) or a laptop, mini-notebook or tablet PC (14 percent) to enhance student achievement. However, when we asked the aspiring teachers to envision their future classroom and technology use, the next generation of teachers are twice as likely to see themselves incorporating mobile devices such as cell phones, PDAs, or MP3 players (24 percent) and three times as likely to include laptops, mini-notebooks or tablet PCs (49 percent) in their future classrooms. Students' demand for the integration of mobile computers and devices within instruction continues to grow. Yet, the majority of teachers and future teachers do not have the experience or skill to effectively integrate these devices into instruction; highlighting the need to invest in professional development to ensure that a solid foundation is created in order to realize the students' vision for un-tethered learning experiences.

While district administrators are supportive of integrating mobile devices into the classroom, both the teachers' (76 percent) and principals' (44 percent) perception that mobile devices will be a distraction may influence that vision and subsequent implementation efforts. Furthermore, while students value the interactivity and accessibility of content and their peers through the devices, teachers are concerned that these highly engaging and compelling devices may cause more distractions than benefits and fear that students will surf the Internet, text friends or play games (see Table 2).

Table 2: Educators' biggest concerns about using mobile devices at school

Reason	Teachers (n=34,280)	Principals (n=2,893)	District Administrators (n=535)
Students will be distracted	76%	44%	34%
Not all students have the mobile devices (digital equity)	62%	48%	52%
Concerned that students will cheat using the devices	33%	N/A	N/A
Teachers don't know how to effectively use the devices within instruction	24%	51%	54%
Need curriculum to support the use of mobile devices	23%	37%	39%
Concerns with theft at school	N/A	56%	40%
Current district cell phone policies	N/A	56%	55%
Concerns about network security	N/A	54%	56%

Source: **Speak Up 2009, © Project Tomorrow 2010**

Principals report the primary barrier to implementing mobile devices within instruction is the potential theft of the devices at school. Both principals and district administrators are equally concerned with network security, and teachers' lack of experience in using mobile devices for learning. Teachers and principals have a significant difference in their perceptions about the teachers' ability to integrate mobile devices into instruction. About one-half of the administrators are concerned that teachers don't know how to effectively use mobile devices within instruction compared to only 24 percent of teachers who share that same view. District administrators are slightly more concerned than principals about students having access to mobile devices.

How will we meet students' demand for online learning?

Student interest in online learning has exploded over the past few years and almost three-quarters of high school students report they know someone (a family member or friend) who has taken an online class. Speak Up 2009 reveals that high school students have a wide range of experience with online classes, including classes: led by a teacher (13 percent), self-study (12 percent), or blended with a combination of online and face-to-face (8 percent). The percent of high school students taking an online class for school and personal reasons doubled from Speak Up 2008. Additionally, over one-third of high school and middle school students who have never taken an online class also express interest in taking one.

Online learning is a key component of the students' vision for an un-tethered learning environment. Yet, many students tell us that the primary barriers to actually taking an online class are a lack of information about available classes and the logistical steps for taking an online class. Simply, students need help in translating their interest in online learning into implementation and many are looking for assistance in this from their school. And while student interest in online learning continues to increase, administrators report their primary audience for online classes continues to be teachers (55 percent) followed then by students (49 percent) and administrators (32 percent). Although the primary focus for online classes is still teachers, there was substantial growth since Speak Up 2008 in the number of administrators who reported they are providing online classes for students (103 percent), administrators (66 percent) and teacher (21 percent).

Even though student interest continues to increase and administrators seek opportunities to provide online classes the number of teachers who are interested in providing online classes is not keeping pace with demand. Funding, Internet access and the capacity of the classroom teacher are the primary barriers cited by administrators to implementing online learning. Interestingly, for almost one-quarter of the responding administrators online learning is **not a funding priority** in their district and over one-third report they are limited by state funding. **Internet access** continues to surface as a barrier to implementing online classes by both principals (24 percent) and district administrators (16 percent).

In general, district administrators are more likely to be concerned than principals with their staff's ability to teach online classes (30 percent) or use the tools (26 percent) as well as the availability of standards-aligned online curriculum (19 percent) or the expertise to create online classes (24 percent).

Further aggravating the situation is the fact that few classroom teachers have taught a 100% online class (5 percent) or taught in a blended online learning situation which includes both online and face-to-face components (4 percent). Despite the lack of experience in teaching online classes, an additional one-quarter of current teachers are interested in teaching an online class. *But is that enough to meet the students' increasing interest in online learning? Who will answer the students' demand for online learning? How will administrators heed their students' vision for online learning? Will they develop their existing teachers' capacity to teach online courses or look to their newest recruits?*

Aspiring teachers provide another opportunity for school districts to meet the pent-up student demand for online classes. Aspiring teachers (21 percent) view online classes and learning management systems (44 percent) as viable options for enhancing student achievement. Likewise, over one-half of the administrators want aspiring teachers to have experience participating in an online class before they complete their certification process. At this point less than one-quarter of the administrators, however, say it is important for aspiring teachers to have the skills to teach an online class and only 4 percent of aspiring teachers report they are learning how to teach online classes in their methods courses. **Unless educators' invest in developing both the existing and aspiring teacher's interest and capacity to facilitate online classes, demand will continue to outpace supply in the traditional K-12 setting.**

Essential Element 3: Digitally-rich learning experiences

Students see the use of relevancy-based digital tools, content and resources as a key to driving learning productivity, not just about engaging students in learning.

Administrators "Speak Up" about learning in 2019…

"The availability and effective use of digital resources will be an integral part of each classroom and the curriculum. It is still new and the learning curve is steep. By 2019, I expect that it will be a routine part of the instructional process."

Elementary School Principal (CA)

Today's students are immersed in the use of digital media tools and content at home and school. At school, the Speak Up data reveals that students prefer to use a wide range of digital media tools to create slide shows, videos or web pages, as well as learn through a digitally rich curriculum that incorporates educational games, virtual experiments or simulations and in 3D virtual reality worlds. When designing their ultimate school both middle and high school students include digital media tools (60 percent), digital resources (51 percent) and games or virtual simulations (60 percent and 52 percent respectively).

About one-half of the district administrators and principals concur that digital media tools, digital resources and online textbooks have the greatest potential to increase student achievement. However, only about 25 percent of administrators agree that games or virtual simulations are a "must-have."

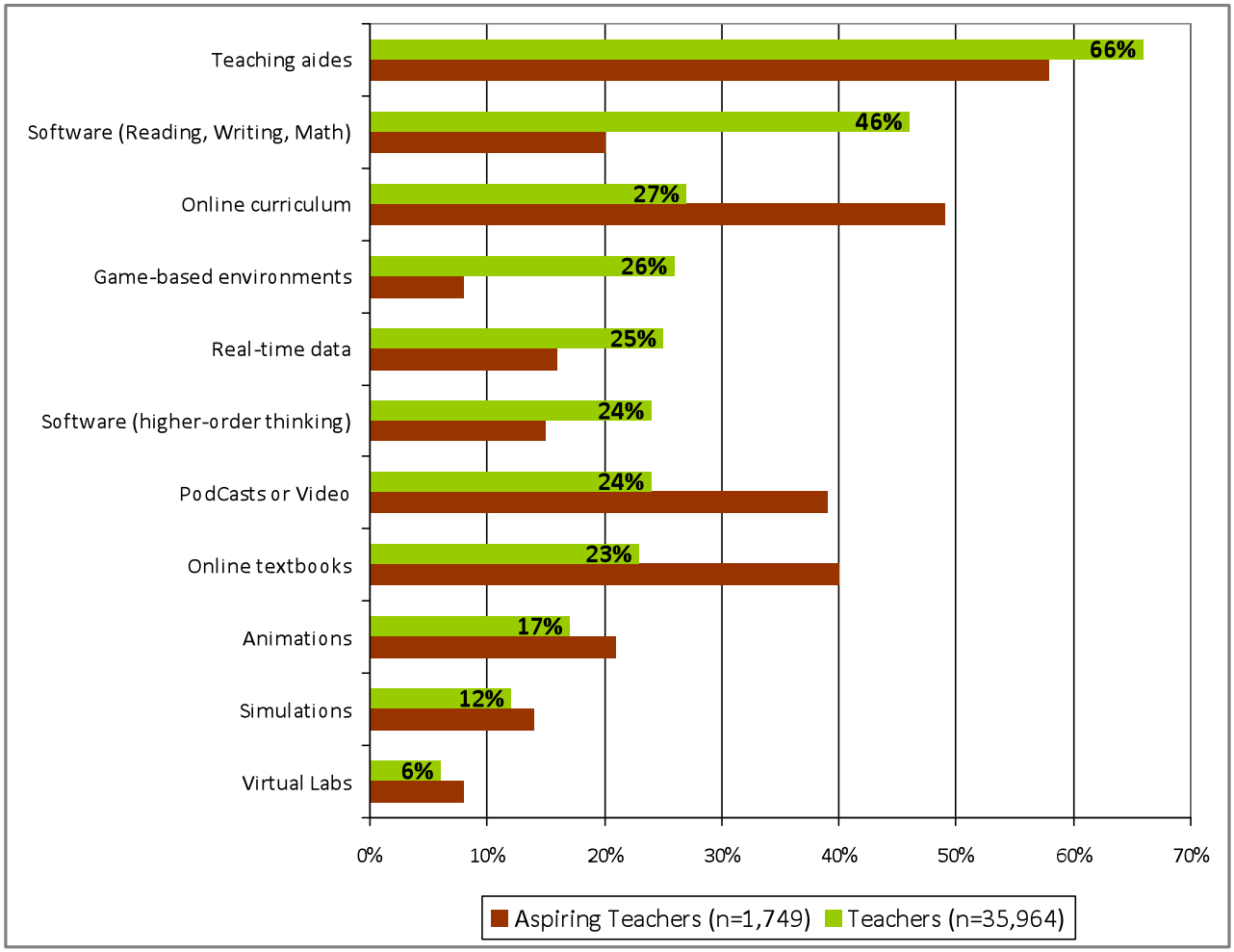
What digital resources are being used in the classroom?

As more students continue to seek opportunities to use digitally rich curriculum, the Speak Up data illustrates that for teachers their primary use of digital resources is through teaching aides (66 percent) or software to help students develop skills in reading, writing and math (46 percent). Less than one-quarter of the teachers are effectively leveraging the power of digital resources by using game-based environments, podcasts or video, real-time data (such as: population, weather, NASA, GOOGLE Earth, GIS) and software to help students develop higher-order thinking skills. Even fewer teachers are utilizing animations (17 percent), simulations (12 percent) and virtual labs (6 percent) in their classrooms. In the context of the national discussion about how to effectively ignite a new generation of scientists, engineers and technologists, it is especially concerning that many teachers are still not effectively leveraging these 21st century tools to compensate for inadequate lab equipment or tools to teach inquiry-based science.

Our future teachers are learning techniques for incorporating digital media both formally through their methods classes, and informally, as they observe their professors teach (68 percent) and study K-12 teachers' use of the tools in actual classrooms (76 percent). When asked which **experiences would best prepare them to teach in a 21st century classroom**, the college students' top five picks include learning how to use technology to differentiate instruction for students (75 percent), incorporating digital resources in a lesson (68 percent), locating and using electronic teaching aides (67 percent), creating and utilizing video or podcasts within a lesson (57 percent) and using electronic productivity tools (57 percent). About one-quarter express interest in learning how to incorporate mobile devices within instruction, using social networking sites or social networking tools to teach.

The Speak Up data reveals a disconnect between the strategies college students are learning in their teaching methods classes and the technology that teachers are currently using in the classroom to enhance student achievement (Figure 3). Currently, our future teachers are being trained to use word processing, spreadsheet or database tools (53 percent), create multi-media presentations (44 percent), and find digital resources such as videos, podcasts or digital images to include in a lesson (40 percent).

Figure 3: Should we prepare our aspiring teachers to use the same technologies being used in the classroom today or for a future vision?



To a lesser degree, these same college students are also learning to create electronic portfolios of student work (31 percent), create videos, podcasts or websites to teach a topic (28 percent), and use animations, simulations or games within instruction (19 percent). Additionally, through their coursework, these future teachers interact with online curriculum (49 percent), online textbooks (40 percent), animations (21 percent) and simulations (15 percent). Less than 10 percent of our future teachers are experiencing the value of using game-based environments or virtual labs in their methods courses.

In spite of the lack of formal training in their teacher preparation programs about how to effectively incorporate games, virtual simulations or animations, this new generation of teachers continues to see the value of these

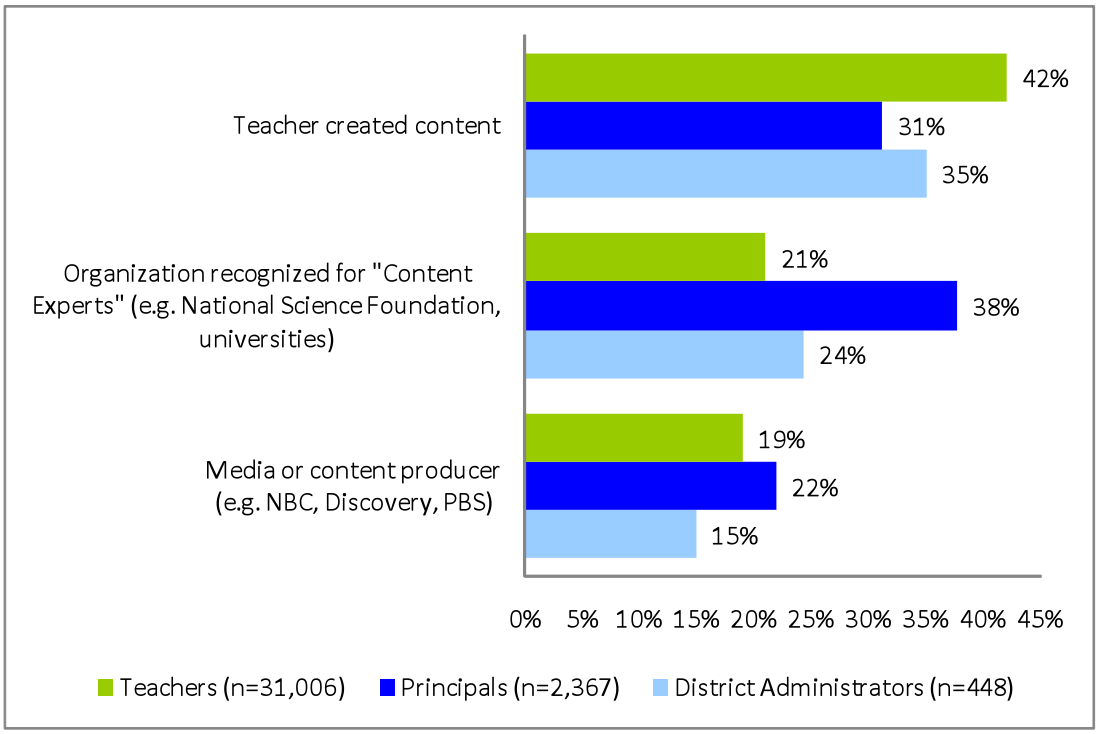
tools and aspires to include them in their future classrooms; highlighting how their own personal experience serves as a model for the potential possibility.

When designing their ultimate school, future teachers are more likely than the veteran classroom teachers to include digitally rich resources into their classrooms (Table 3). Across the board, these future teachers are more likely than existing classroom teachers to desire digital media tools, digital resources such as, databases, electronic books, animations, or videos, and flip cameras in their classrooms. Future teachers also envision games, virtual simulations and video conferences or webinars in their classrooms. This new generation of teachers is also five times more likely to use electronic portfolios for their students; once again, illustrating the natural affinity they have towards technology that will enable them to create digitally rich learning experiences.

How are digital resources being evaluated?

Administrators and teachers evaluate the quality of resources using a variety of criteria including who published the digital content, who recommended the digital resources, expected student outcomes and price. Teachers are most likely to select digital resources created by a practicing teacher (Figure 4). Principals and district administrators place a greater value on content that is developed by an organization recognized for its content expertise, such as the National Science Foundation or universities than teachers do; principals have the strongest preference for resources steeped in content expertise. Information about student achievement and teacher "approved" status are important to both district administrators and principals.

Figure 4: Teachers prefer using digital resources created by other teachers



Teachers continue to rely on "word of mouth" when determining which digital resources to incorporate into their instruction, over 40 percent depend on referrals from colleagues followed by recommendations from certified

education membership associations (27 percent), education blogs or websites (20 percent) or their state department of education (19 percent).

Barriers to implementing digital resources

As digital resources become more widely available administrators are less concerned about locating free appropriate digital resources (9 percent) and more concerned with training teachers about how to effectively use digital resources (43 percent), providing computers (35 percent), and securing funds to purchase digital materials (30 percent). District administrators are also concerned that they do not have the staff to identify or create digital resources that meet their standards.

How do we get there?

Although teachers continue to report barriers to using digital resources, we are beginning to see in our Speak Up 2009 data findings that teachers are starting to transform their vision for 21st century classrooms into a reality. In Speak Up 2009, teachers reported using digital media tools (66 percent), digital resources (46 percent) and games (42 percent) to enhance student achievement. By comparison, in 2008 when teachers were asked to design their ultimate school and identify technology that would hold the greatest potential for student achievement, only 32 percent chose digital media, 35 percent chose digital resources and 21 percent identified games. This significant year to year growth from vision to implementation indicates that teachers are open to the idea of incorporating more digitally rich learning experiences into their classrooms – and also that the usage of these tools by students in school and at home may be driving greater adoption by the teachers.

Ending Thoughts

Meeting students' desires for socially-based, un-tethered, digitally rich learning experiences requires educators to address head on key infrastructure and funding challenges, policies around technology use and in particular, the use of students' personal devices, and the ongoing need for new approaches for training teachers, both in-service and pre-service. Similar discussions about how to meet these challenges are taking place throughout the country from the halls of Congress to local school board meetings.

Campus wide interactive Internet access is at the cornerstone of the new student vision for learning, supported by the ability for students to access their work and classroom resources anytime and anyplace. To fully implement the vision however, teachers need meaningful opportunities to learn how to effectively integrate emerging technologies such as mobile devices, online learning and digital resources and explore new strategies for using technology to facilitate collaboration amongst their students. Additionally, it is equally important that schools, districts and universities (including schools of education) collaborate to identify effective digital resources that will not only engage students in learning and enhance student achievement but also, utilize the technology to transform teaching practices for greater impact and productivity.

As administrators develop their strategic plans and evaluate alternatives for investing in technology, it is also important to consider the voice of the college students who are currently enrolled in teacher preparation programs. Perhaps, because they too grew up as digital natives, this new generation of teachers brings a different set of experiences and perspectives. These budding professionals appear to be poised to leverage a wide range of emerging technologies within their future classrooms (Table 3); however, their formal training highlights a need to provide additional guidance to help them effectively leverage the technology for learning. These future teachers recognize the

Table 3: Key technology tools for facilitating 21st century learning

	Future Teachers (n=1,729)	Teachers (n=35,964)	Principals (n=2,462)
Social-based Learning			
Collaboration tools	82%	27%	51%
Communications tools	67%	63%	55%
Virtual or online whiteboard	37%	6%	29%
Un-tethered learning			
Campus wide Internet access	82%	80%	47%
Mobile computer for every student (laptop, mini-notebook, tablet PC)	49%	14%	58%
Mobile devices (cell phones, PDA, MP3 player)	24%	10%	34%
Online classes	21%	10%	44%
Digitally rich curriculum			
Digital media tools	79%	66%	54%
Digital resources	59%	46%	42%
Electronic portfolios for students	54%	10%	49%
Games	52%	42%	25% includes virtual simulations
Online textbooks	43%	19%	47%
Virtual simulations	27%	5%	N/A

importance of using tools for facilitating social based learning, such as collaboration and communications tools or virtual whiteboards. They also recognize that campus wide Internet access and mobile computers are a requirement to providing un-tethered learning. Lastly, they recognize that teaching aides and videos are only one aspect of digital content and that we will truly unleash learning and create more robust, meaningful experiences for students when we use games, online textbooks or virtual simulations. Finally, they are looking at assessment in new and different ways through electronic portfolios.

While, these future teachers have a desire to integrate the technology to support socially-based, digitally rich curriculum in their classroom, they are primarily being taught to use technology for word processing, spreadsheet, database tools or multi-media presentations. Less than 25 percent of these future teachers are being taught core skills which will enable them to leverage the power of technology for student achievement with online assessments, the use of student achievement data to inform instruction, or facilitate collaboration amongst students using Internet-based tools (such as blogs, wikis or social networking tools). Even fewer are learning how to teach online classes (4 percent).

As we continue our local and national discussions about creating learning environments that will engage students and enhance student achievement, perhaps we should begin to ask: *are our schools and districts ready to accommodate the desires that this next generation of teachers have for truly 21st century, technology-enabled and empowered classrooms?*

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EXHIBIT 4

Creating Our Future:

Students Speak Up about their Vision for 21st Century Learning

Speak Up 2009

National Findings

K–12 Students & Parents

March 2010

Project Tomorrow

www.tomorrow.org/speakup/

Speak Up

Introduction

For the past 7 years, the Speak Up National Research Project has provided the nation with a unique window into classrooms and homes all across America and given us a realistic view on how technology is currently being used (or not) to drive student achievement, teacher effectiveness and overall educational productivity. Most notably, the Speak Up data first documented and continues to reveal each year the increasingly significant digital disconnect between the values and aspirations of our nation's students about how the use of technology can improve the learning process and student outcomes, and the values and aspirations of their less technology-comfortable teachers and administrators. Students, regardless of community demographics, socio-economic backgrounds, gender and grade, tell us year after year that the lack of sophisticated use of emerging technology tools in school is, in fact, holding back their education and in many ways, disengaging them from learning. In many communities and states, this hard realization that today's classroom environment does not mirror the way today's students are living their lives outside of school or what they need to be well prepared to participate, thrive and compete in the 21st century economy is actually exacerbating the existing relevancy crisis in American education. The Speak Up 2009 national findings paints a vivid picture of this continuing digital disconnect and also, advances the premise introduced with the data last year that by listening to and leveraging the ideas of our nation's students we can start to build a new vision for 21st century education that is more reflective of the needs and desires of today's learners. In many ways, our students are already functioning as a Digital Advance Team for the rest of us; rapidly assimilating and adapting new technologies used in their personal lives to drive increased productivity in their learning. With this year's findings, we give voice to a new genuine "student vision" for learning and in particular, the student's experience-based blueprint for the role of incorporating emerging technologies in 21st century education, both in and out of the classroom.

About the Speak Up National Research Project and Speak Up 2009

Speak Up is a national initiative of Project Tomorrow, the nation's leading education nonprofit organization dedicated to ensuring that today's students are well prepared to be tomorrow's innovators, leaders and engaged citizens. Since fall 2003, the annual Speak Up National Research Project has collected and reported on the views of over 1.85 million K-12 students, teachers, administrators and parents representing over 23,000 schools in all 50 states. The Speak Up data represents the largest collection of authentic, unfiltered stakeholder input on education, technology, 21st century skills, schools of the future and science and math instruction. Education, business and policy leaders report using the data regularly to inform federal, state and local education programs.

In fall 2009, Project Tomorrow surveyed 299,677 K-12 students, 26,312 parents, 38,642 teachers, 1,987 pre-service teachers and 3,947 administrators representing 5,757 schools and 1,215 districts including public (97 percent) and private (3 percent) schools. Schools were located in urban (38 percent), suburban (31 percent) and rural (32 percent) communities. Over one-half of the schools were Title I eligible (an indicator of student population poverty) and 42 percent of the participating schools had more than 50 percent minority population attending.

The Speak Up 2009 surveys for K-12 stakeholders were administered online between October 18, 2009 and December 18, 2009. The surveys included foundation questions about technology use, 21st century skills and schools of the future, as well as emerging technologies (online learning, mobile devices and digital content), math instruction and STEM career exploration, and the challenges faced by teachers and administrators. The survey was a convenience sample; schools and districts self-selected to participate and facilitated the process for their students, teachers, parents and administrators to take the survey. Every school and district in the United States was eligible to participate in the research project. To minimize bias in the survey results, significant outreach was done to ensure adequate regional, socio-economic and racial/ethnic/cultural distribution. To participate in Speak Up, districts registered their schools, promoted the survey to their constituents and scheduled time for their students and staff to take the 15-minute online survey. Starting in February 2010, every participating schools and districts had free, online access to their stakeholder data with comparative national benchmarks. The national data is annually summarized, analyzed and subsequently verified through a series of focus groups and interviews with representative groups of students, educators and parents.

This report is a first in a series of Speak Up reports based upon the Speak Up 2009 data collected from over 368,000 K-12 students, parents, in-service and pre-service teachers and administrators that will be released this year to inform the national, regional and local discussions about how to improve American education. Most importantly for us, we hope that the resulting discussions will also provide new guidance to the greater education community on how to fully leverage resources, both human and technological, to ensure that all students gain the skills and experiences they need to participate, compete and thrive in the 21st century economy.

Creating Our Future: Students Speak Up about their Vision for 21st Century Learning

As a reaction to this newly exacerbated relevancy crisis in American education, the 2009 Speak Up National Findings provide compelling evidence that our nation's K-12 students are increasingly taking responsibility for their own learning, defining their own education path through alternative sources, and feeling not just a right but a responsibility for creating personalized learning experiences. This "Free Agent Learner" student profile is not a future persona for students that are beyond the current purview of today's schools. Rather, the Free Agent Learner characteristics accurately depict the way many of today's students are approaching learning. For these students the schoolhouse, the teacher and the textbook no longer have an exclusive monopoly on knowledge, content or even the education process, and therefore, it should not be surprising that students are leveraging a wide range of learning resources, tools, applications, outside experts and each other to create a personalized learning experience that may or may not include what is happening in the classroom. Through the Speak Up 2009 survey, we learned about the kinds of technology-based learning experiences that students are having outside of school, not directed by a teacher or part of a class assignment or homework. Those activities, self-directed by the students themselves in their quest to define their own personalized learning, included seeking out other students for collaborations, information sharing and tutoring via Facebook, taking online assessments and tests to evaluate their own status in the knowledge acquisition process on a particular topic, using cell phone applications for self-organization and increased productivity, taking online classes not for a grade but to learn more about subject that interests them, accessing podcasts and videos to help in classes they are struggling in, and finding experts (including other students) to connect with online to exchange new ideas and explore content in a myriad of new

ways. These students are not necessarily waiting for our schools to provide the tools or applications (or even for national policy to suggest a new vision) to do this; they are instead taking their educational destiny and future into their own hands by adapting the tools they have become accustomed to in their personal life for learning. Our nation's students are, in fact, through their fearless adoption and clever adaptation of emerging technologies and tools, developing and implementing their own version of a 21st century education vision. They are, in the absence of a more relevant learning process, creating their own future.

In this report, we identify the three essential elements of this new emerging student vision for American education. At the heart of each element is the innovative use of a wide range of emerging technologies including online learning, mobile devices, Web 2.0 tools and digital content. While these three essential elements represent some dramatically new approaches to teaching and learning in a classroom setting, for the students, the incorporation of the tools and applications is merely a natural extension of the way they are currently living and learning outside of that classroom. Thus, there exists a very special opportunity today to both increase the relevancy of a student's education experience and to start to close the persistent digital disconnect between students and educators on learning with technology. The key to unlock this opportunity is a long overdue realization that the students' ideas on how to effectively leverage technology within learning can provide meaningful insights and even present a clear pathway for implementation. The essential elements are the first step in visioning that new pathway:

- **Social-based learning** – students want to leverage emerging communications and collaboration tools to create and personalize networks of experts to inform their education process.
- **Un-tethered learning** – students envision technology-enabled learning experiences that transcend the classroom walls and are not limited by resource constraints, traditional funding streams, geography, community assets or even teacher knowledge or skills.
- **Digitally-rich learning** – students see the use of relevancy-based digital tools, content and resources as a key to driving learning productivity, not just about engaging students in learning.

The report provides a selection of Speak Up data findings to demonstrate how students are currently leveraging a wide variety of emerging technologies to implement their vision and how their aspirations for using technology more effectively within the traditional classroom can be a catalyst for transformational change in our nation's classrooms. Where important to the discussion of each essential element, we have also included parents' and teachers' views to provide a reality based context to this vision.

Our overarching goal with this report is to honor the request of our nation's K-12 students who overwhelmingly told us in this year's surveys they want to be more involved in education decisions at their school and to have their ideas heard. This report is therefore dedicated to all of the students whose voices need to be heard. We are listening. Go ahead and speak up!

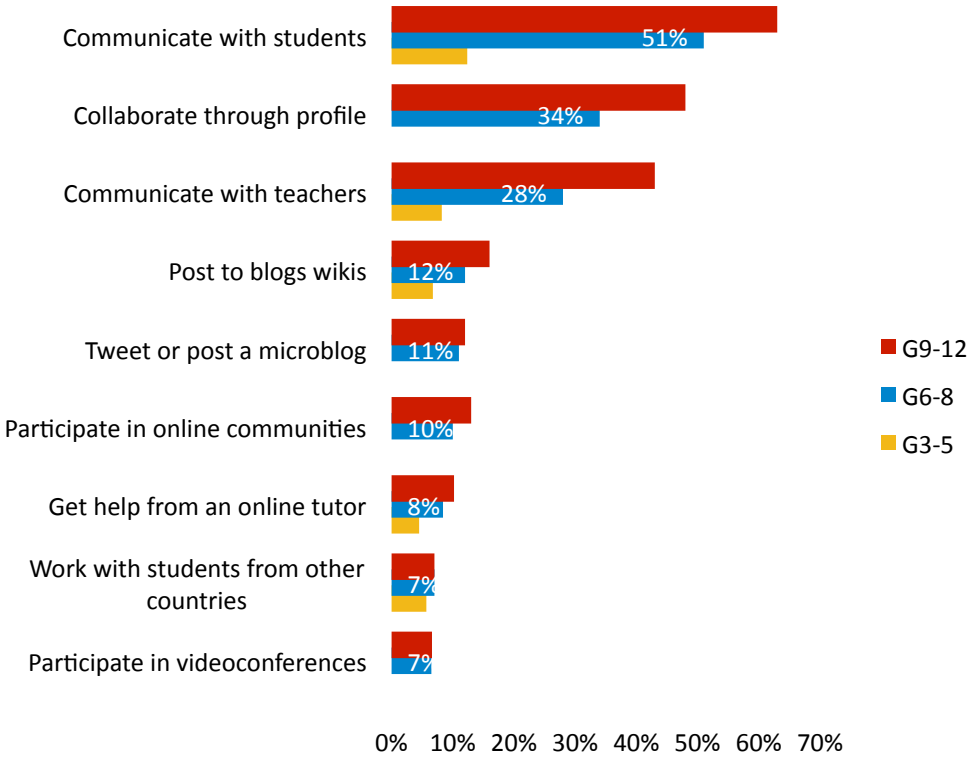
Essential Element 1: Social-based learning

Students want to leverage emerging communications and collaboration tools to create and personalize networks of experts to inform their education process.

To provide clarity to the value that students place on social-based learning, the Speak Up data provides new insights into how today's students are using advanced communications and collaboration tools, both for schoolwork purposes and in their personal, outside of school technology-infused lives. Additionally, the Speak Up data helps to illustrate the challenges students face in leveraging these tools for greater productivity due to restraints placed on their use by their schools.

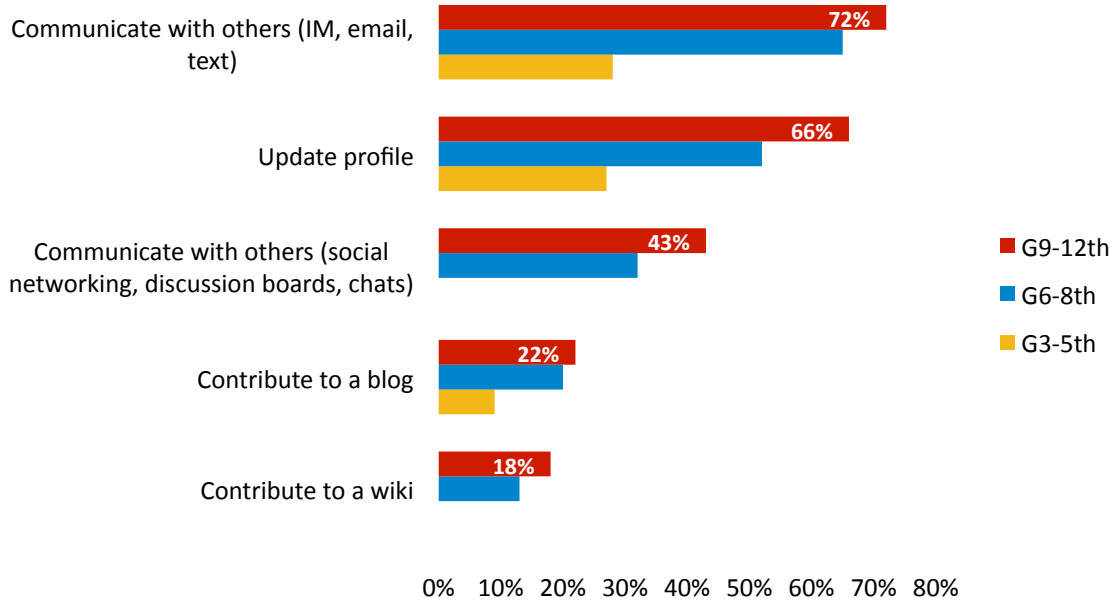
How are you currently using communications and collaboration tools for schoolwork purposes?

Figure 1: Students use a variety of tools to collaborate and communicate about school work



How are students currently using communications and collaboration tools outside of school?

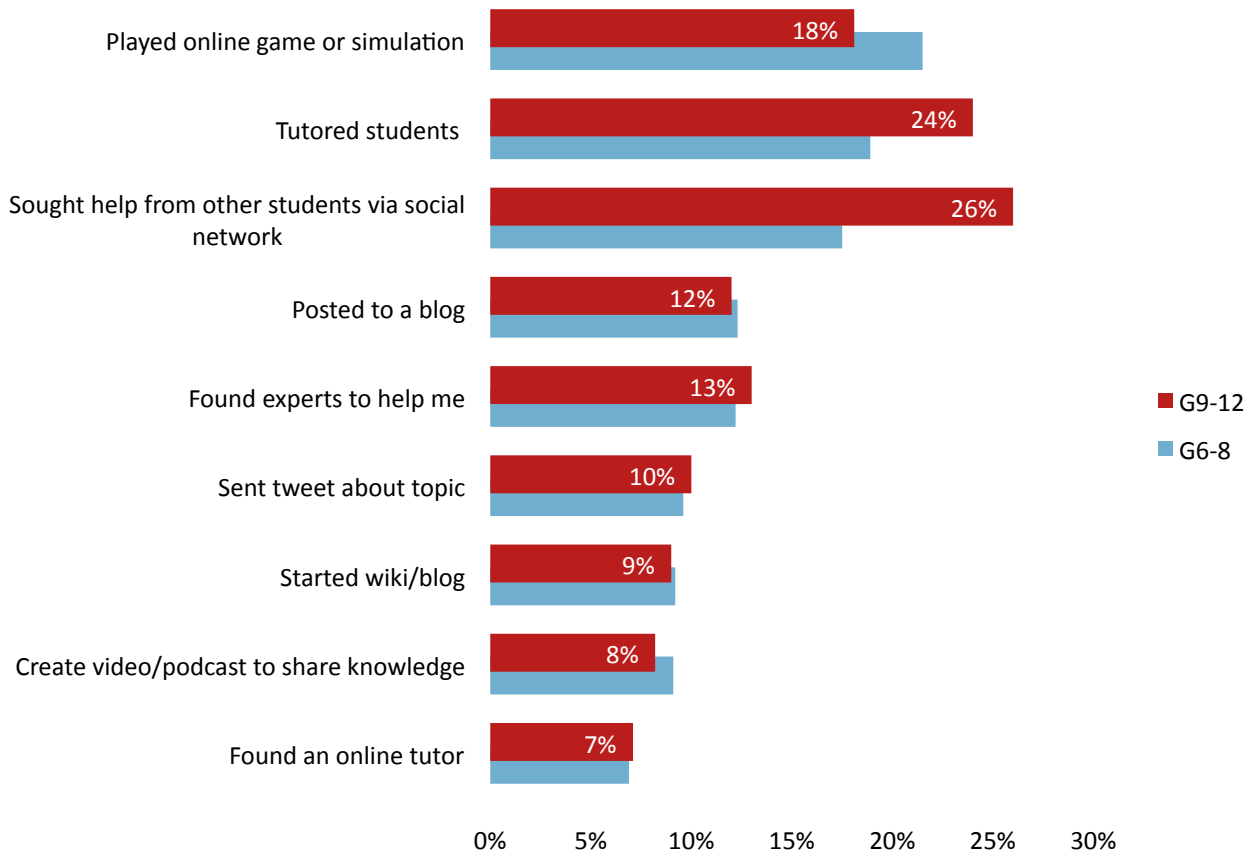
Figure 2: Students use a variety of methods to communicate and collaborate outside of school



Of special significance is that 43 percent of students in grades 9-12 say that their primary vehicle today for communicating with their friends online is through their social networking site.

When asked what kinds of educational experiences they had done on their own, without teacher direction or as part of a homework assignment, we learned that today's students are developing their skills as "Free Agent Learners." By leveraging a wide range of technology-enabled communications and collaboration tools, the students are starting to build a personalized network of experts and in fact, also sharing their own expertise in the same way with others.

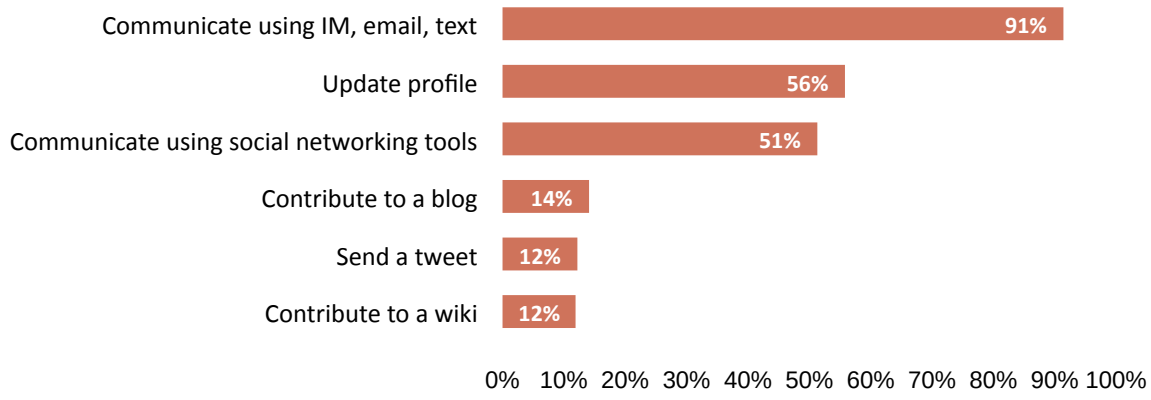
Figure 3: Students are "Free Agent" Learners: Using technology tools on their own for learning



While students are developing these skills outside of school, many schools are not taking advantage of either the tools or the students' knowledge about how to use these tools within the classroom. About one-third of middle school and high school students' report that two major obstacles to using technology more effectively at school is their inability to access personal communications accounts or send messages to classmates during the school day. Not surprisingly, therefore, one-third of middle and high school students want their school to provide access to students' personal communications accounts and to allow access to their social networking sites. Notably, students also want to be able to use these tools to communicate with their teachers; one-third of middle and high school students want their schools to provide tools so that they can electronically communicate with teachers.

Parents are actively using many of the same tools that their children are using as well within the context of their own professional or personal activities, and thus they are developing a good foundation for supporting the students' vision for social-based learning. In fact, over one-half of parents report they communicate using social networking tools (see Figure 4).

Figure 4: Parents use a variety of tools to communicate & collaborate



However, when asked about which technology tools would be a good investment to drive student achievement, only 20 percent of parents identified collaboration tools (such as blogs, social networking sites, wikis, etc) and only one-third selected communications tools (such as email, IM and text messaging). Yet, the highest ranked technology for investment in the parents' perspective was a school website or portal with 60 percent of the parents selecting it as their top choice for driving student achievement. The parents, therefore, value the information provided to them from the school website or portal and the direct access they can have to their child's teachers and administrators. As a result of this acceptance by parents of the value of the school website, these portals have a significant potential to be the forum for enhanced home-to-school communications and collaborations with the inclusion of some of the Web 2.0 tools already used by the students and parents.

The student vision for social-based learning is not divorced from curriculum or content. In fact, when asked to describe what instructional techniques or methodologies would be most helpful in learning math, about middle school students (47 percent) and high school students (40 percent) selected "discussing how to solve a problem with my classmates" and "helping other students with their math problems."

This social-based approach to learning applies to how the students want to learn about careers in the science, technology, engineering and math fields. Some of the top student responses for high school and middle school students included: meeting successful role models (55 percent, 58 percent), talking to professionals about their jobs (54 percent, 52 percent) and working with mentors (41 percent, 35 percent) who can help with college and career planning.

As schools and districts examine how to effectively and appropriately engage students in learning by leveraging emerging tools that are native to students' learning processes, the voices of the students about social-based learning provide sound recommendations.

Essential Element 2: Un-tethered learning

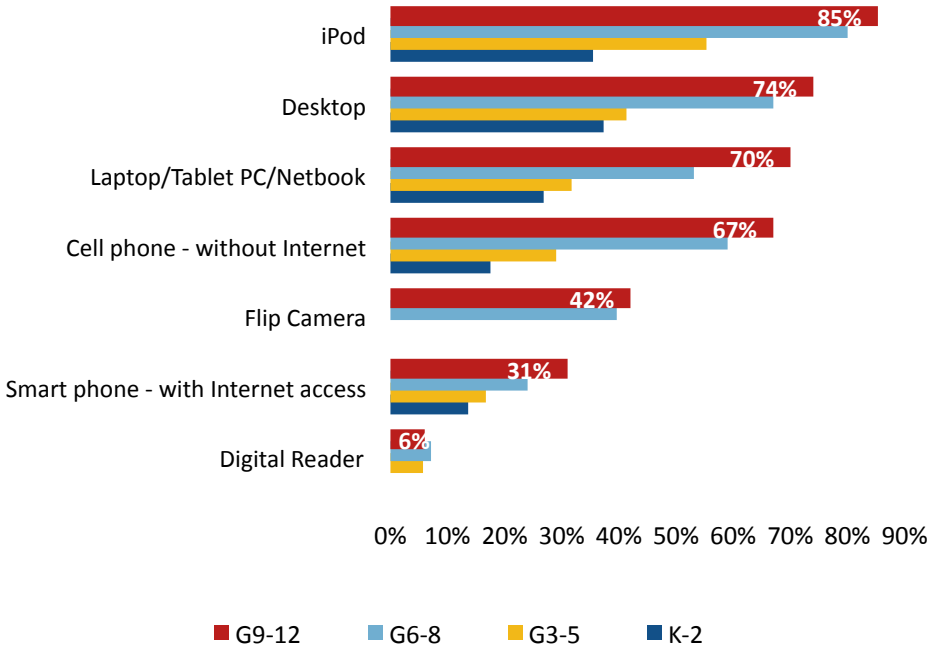
Students envision technology-enabled learning experiences that transcend the classroom walls and are not limited by resource constraints, traditional funding streams, geography, community assets or even teacher knowledge or skills.

Learning for today's students is not bound or limited by the same things that constrain traditional education including geography, time, resources, teacher quality, community assets etc. Students see the Internet and the resources available to them in the world as a giant learning sandbox which they can explore at their own pace and in their own time. In many communities, the students feel a strong need to access online resources due to the lack of resources in their own community or concerns about the quality or effectiveness of their teachers or textbooks. In that sense, un-tethered learning that leverages the best educational content and learning experiences, wherever it may be in the world, is the truly ultimate classroom for today's students. The Speak Up 2009 data provides new information about the access that students have to devices, tools and applications that empower un-tethered learning and how they want to use these resources such as mobile devices, the Internet and online learning for both personalized learning and increased productivity. The views of parents and teachers on these emerging technologies are also shared to provide a reality-based context around classroom usage.

Mobile Devices

What types of electronic devices do you have access to for your own use?

Figure 5: Students have access to a variety of electronic devices



If allowed at your school, how would you use mobile device to help you with schoolwork?

In the student vision, mobile devices have the potential to directly impact learning and personal productivity.

Figure 6: Students' suggested uses of mobile devices for learning

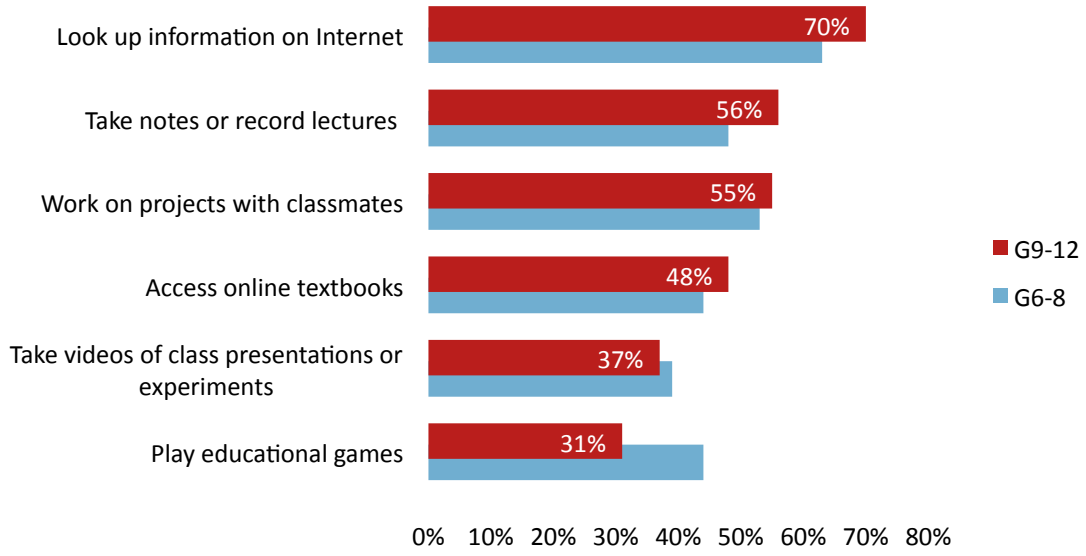
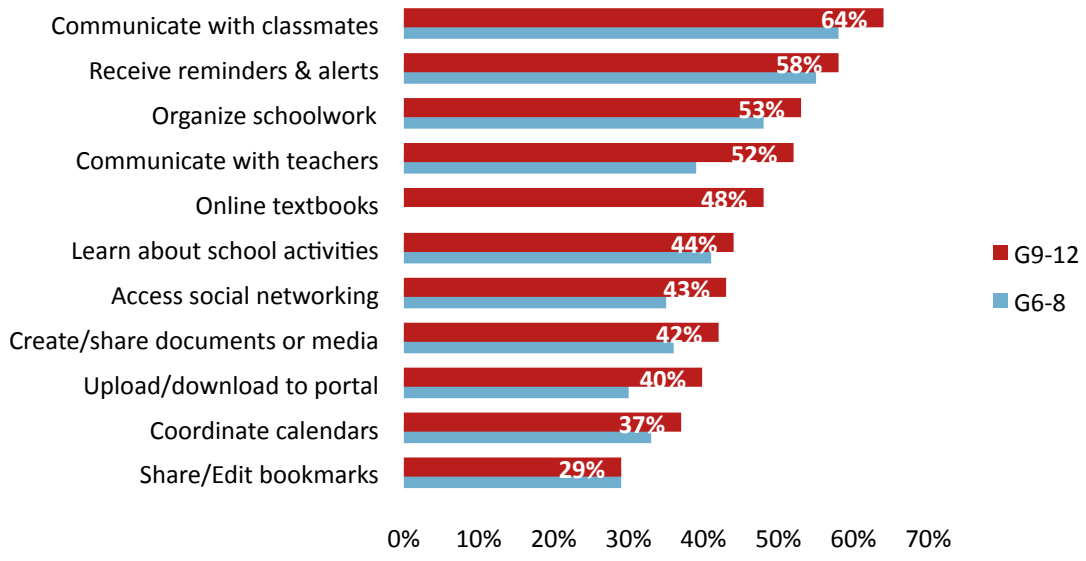


Figure 7: Students believe that mobile devices can also enhance personal productivity



Despite the increasingly widespread access to mobile devices and students' aspirations for their use within education, they continue to fight resistance to the use of these devices in the school day. In fact, when asked to identify the major obstacles the prevent use of technology at your school, the #1 response from the students in grades 6-12 was "I cannot use my own cell phone, smart phone or Mp3 player" in school, beating out for the first time since 2003, school filters and firewalls as the students' top obstacle.

As we have been documenting for the past few years, students have their own solutions to these obstacles. When asked to give a recommendation about how their school could make it easier to use technology for schoolwork, the top 5 responses from the students reflect the same kinds of obstacles:

1. Let me use my own cell phone, smart phone or MP3 player
2. Let me use my own laptop or netbook
3. Provide me with unlimited Internet access throughout the school
4. Provide access to my social networking sites
5. Provide tools to help me communicate with my classmates

Parents like their children are increasingly relying upon mobile technologies for communications, access to the Internet and productivity tools. Three-quarters of parents indicated on the Speak Up survey that they had personal access to a cell phone, a laptop and a MP3 player; 39 percent were using a smart phone. It is therefore interesting to examine parental viewpoints on the potential benefits of using mobile devices within instruction.

Many schools are thinking about how to use mobile learning devices within education. What do you think would be the primary benefits of using such devices within instruction?

Table 1: Parents share their ideas about the value of mobile devices for instructional purposes

Potential Benefits	Responses
Increases student engagement	43%
Prepares students for world of work	41%
Extends school day learning	38%
Provides access to online textbooks	37%
Improves teacher-parent-student communications	35%
Students can review class materials	32%
Personalizes instruction	31%
Provides way to help struggling students	27%

Source: Speak Up 2009 data, © Project Tomorrow 2010

What is your biggest concern about students using mobile devices in your classroom?

Table 2: Teachers' biggest concerns about using mobile devices at school

Reason	Teachers
Students will be distracted	67%
Not all students have the mobile devices	55%
Concerned that students will cheat using the devices	30%
Do not know how to effectively use the devices within instruction	21%
Need curriculum to support the use of mobile devices	20%

Source: Speak Up 2009 data, © Project Tomorrow 2010

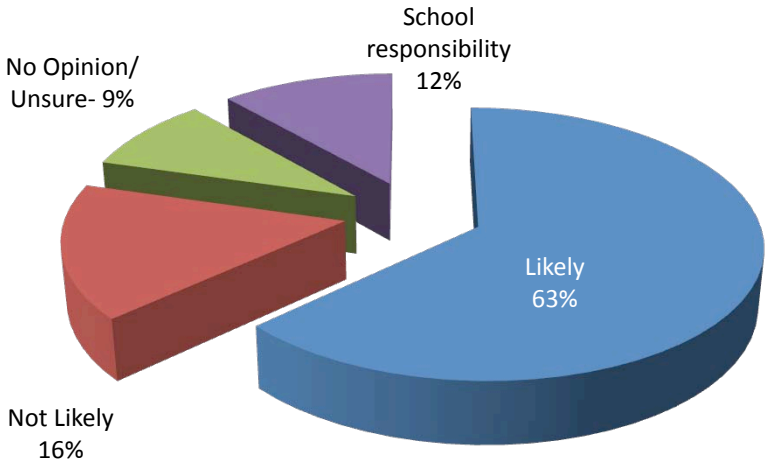
Teachers indicate the same top line benefits as parents with only 11% of teachers and 16% of parents dismissing mobile devices as not having a positive impact on learning.

Despite the positive votes for the value of mobile devices within learning, teachers however still have some reservations. Interestingly, while a majority of teachers agree that the use of the devices will increase student engagement; two-thirds are concerned about the potential for these very compelling, interactive devices to distract students from their learning at hand.

To better understand how strongly parents felt about the value of mobile devices, we asked them to vote with their pocketbooks in mind, thus sending a very strong signal to the schools and districts about parental support for the use of these devices for educational purposes.

If your child's school allowed use of mobile devices for educational purposes, how likely are you to provide one for your child?

Figure 8: Parents' willingness to purchase mobile devices for their child to use at school

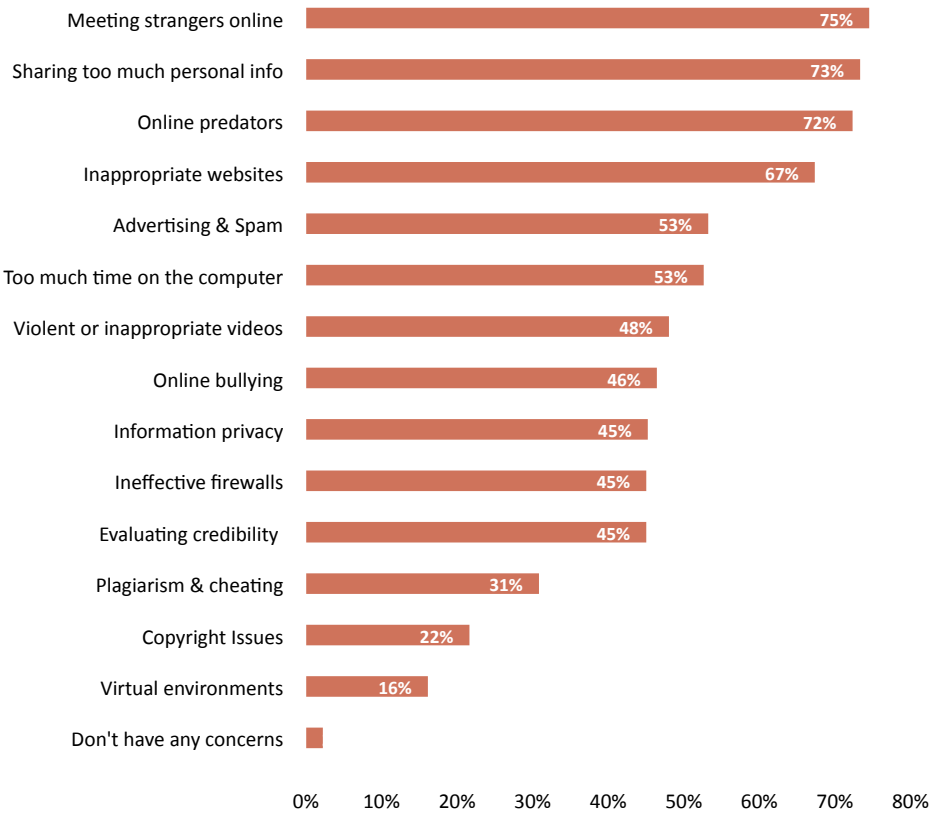


Internet Access

Students tell us that a primary way that they use technology for schoolwork is to access the Internet for research. Students also tell us that they would like to have greater access to the Internet at school. About one-half of middle and high school students recommend that their school provide unlimited Internet access throughout the school and one-third of middle and high school students would like to also access the school network from any computer at home or at school to work on school projects. This discussion around levels of Internet access inevitably leads to a conversation about online safety, a particularly important concern of parents.

What concerns you the most about your child's Internet use at school or home?

Figure 9: Parents' concerns about their child's safety on the Internet

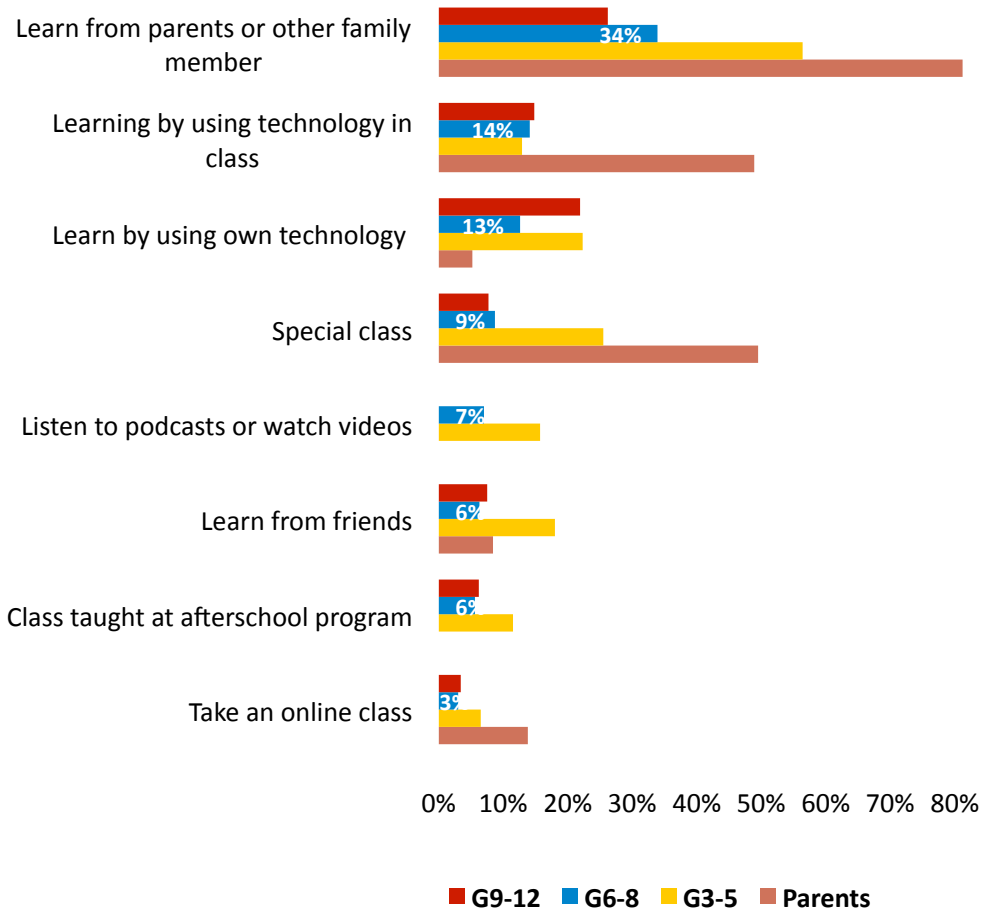


When parents are asked to rate the use of technology at their child's school, 41 percent of parents believe that the processes the school has in place for Internet safety and protecting personal information are acceptable. In contrast to the parental concern, high school (41 percent) and middle school (38 percent) students report they know how to be safe and protect themselves when they are online.

What is the best way for you/your child to learn about being safe on the Internet?

Overwhelming, 80 percent of parents reported that they or another family member are the best resource for their child to learn about Internet safety. Students in all grades agreed to varying degrees, younger students in grades 3rd through 5th (56 percent) were more likely than middle school students (34 percent) or high school students (26 percent) to select their parents. Students prefer different strategies for learning about Internet safety depending on their current grade, 3rd through 5th grade students prefer learning from their teacher (48 percent), through a special class (26 percent), or on their own using technology (22 percent). Aside from their parents, middle school students reported using technology in class (14 percent) was a good strategy for learning Internet safety; while high schools students (22 percent) wanted to learn on their own using technology.

Figure 10: Parents and students Speak Up about teaching Internet safety

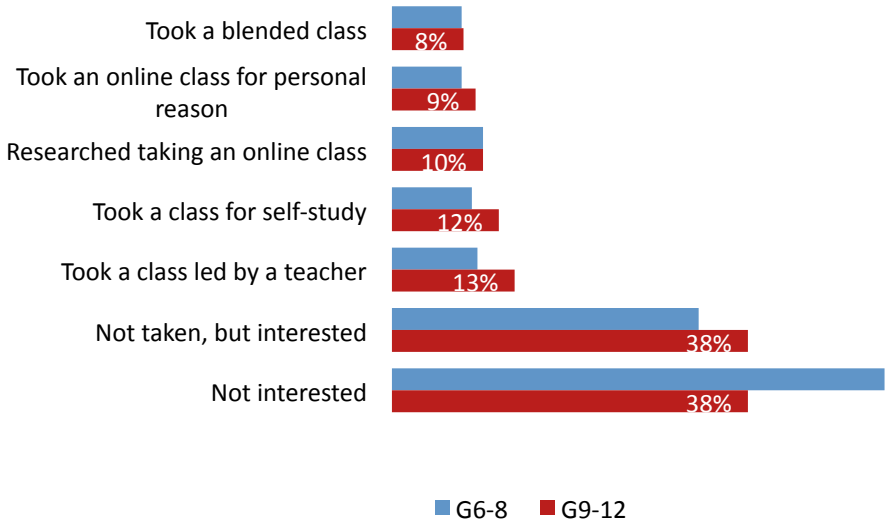


Online Learning

With almost three-quarters of high school students saying that they know someone (a family member or friend) who has taken an online class, it is not surprising that student interest in online learning has exploded over the past few years and is a key component of the un-tethered learning element in the new student vision for education. However, while student interest is on the rise, students also tell us that the primary barriers to actually taking an online class are a lack of information about available classes and the logistical steps for taking an online class.

In the past 12 months, how have you been involved in classes taught online?

Figure 11: Students have a growing interest in taking classes online



What would be the most significant benefits to you of taking an online class?

Figure 12: Students take online classes to be in control of their learning

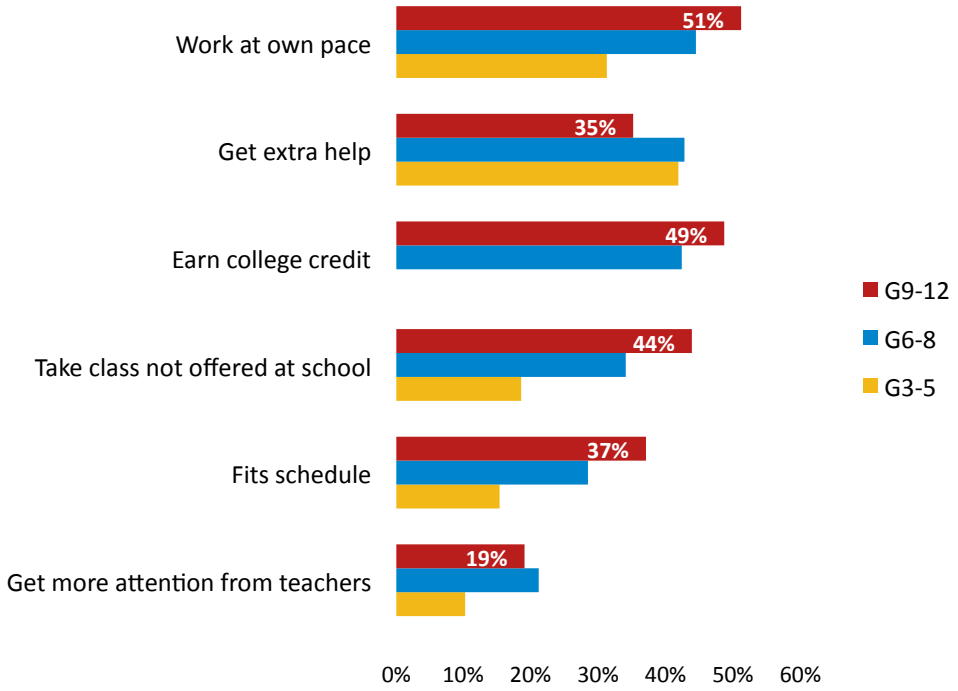
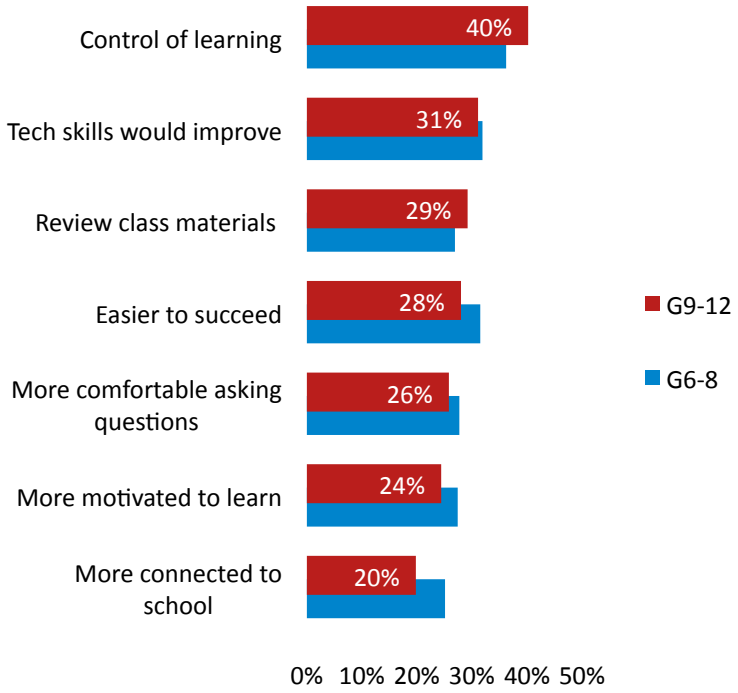


Figure 13: Students Speak Up about the value of online classes



As we have seen with other emerging technologies, parents' own familiarity with the new tools and applications helps to solidify the value for their children. Over one-third of parents indicated in the Speak Up surveys that they have taken an online class for personal or professional reasons; an additional 27 percent said they would be interested in taking an online class. Correspondingly over 48 percent of parents recommended online classes as a good investment to help enhance student achievement.

Whether it is using mobile devices to increase student productivity or online classes to personalize the learning experience, students have good ideas about how to leverage un-tethered learning to improve student achievement.

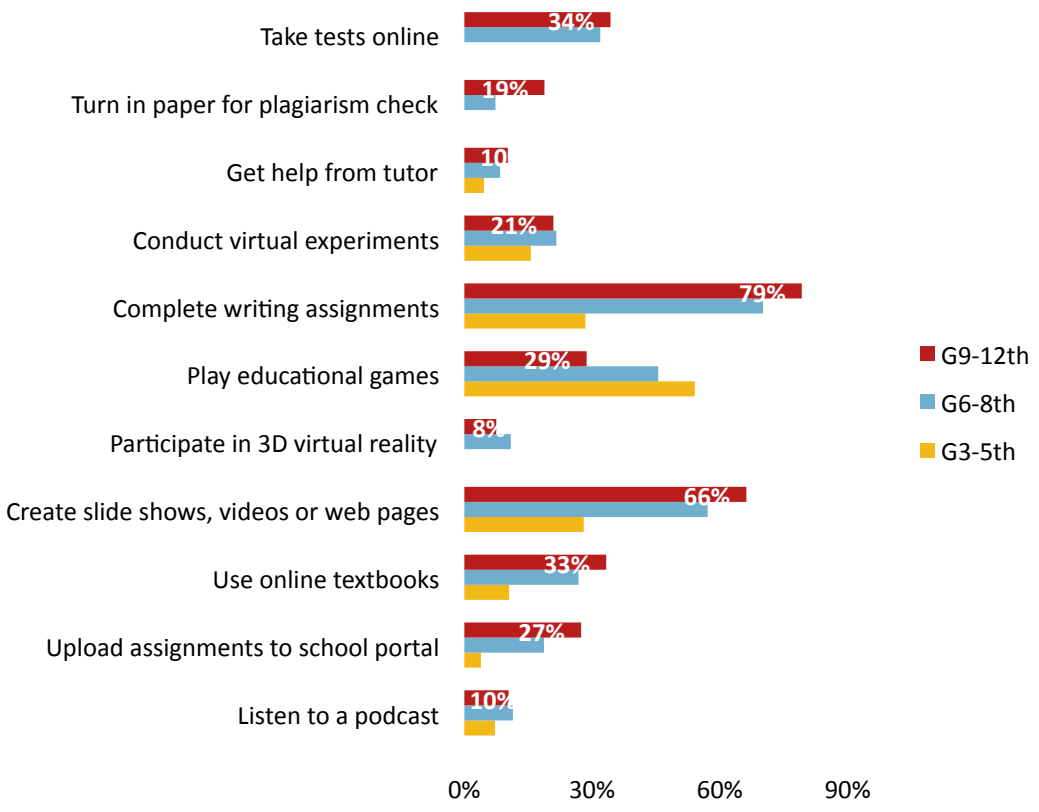
Essential Element 3: Digitally-rich learning experiences

Students see the use of relevancy-based digital tools, content and resources as a key to driving learning productivity, not just about engaging students in learning.

Today's students are totally immersed in the sophisticated use of digital media, tools and content in most aspects of their lives. Not surprisingly, therefore, today's youth are consummate documentarians, documenting their lives as they are unfolding with photos, videos, blog entries, lists of favorites, explicitly named networks of friends and colleagues, status postings and rankings from online games, and opinions on just about everything that is happening in their universe. Being technology-enabled, these resources and applications are highly engaging for the students but they also provide the students with new ways to approach self-directed learning and educational productivity. The Speak Up data provides new insights about how students are currently using digital media tools, content and resources within learning and also provides guidance on student preferences for digitally rich learning environments. As a comparative, we have provided some specific parent and teacher data that relates to their values around digital content as well.

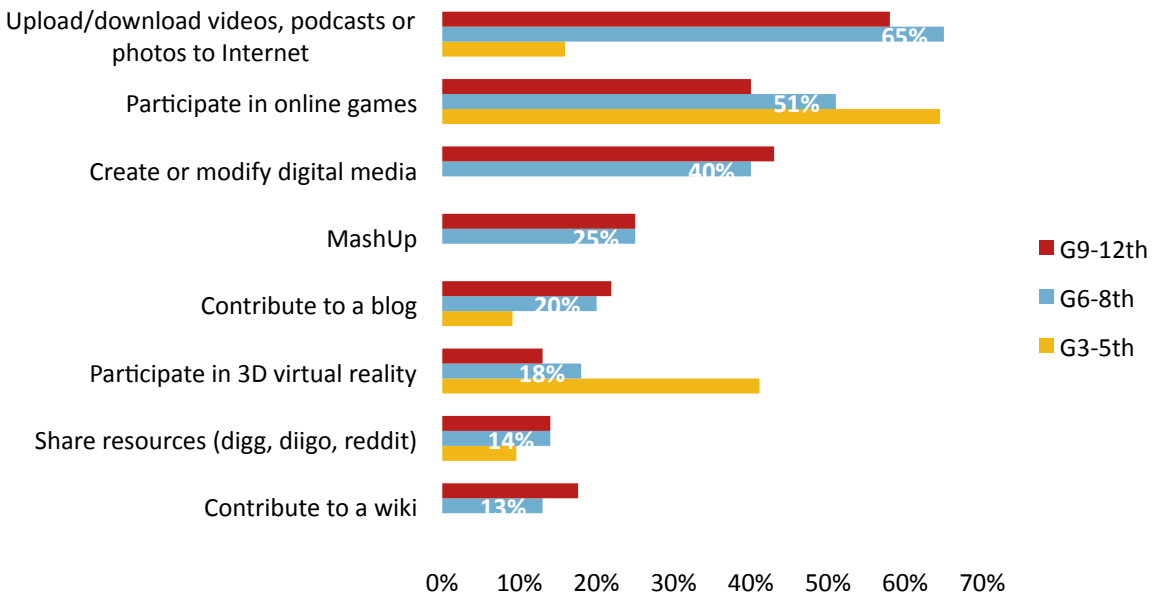
How are you currently using digital media tools, content and resources for schoolwork purposes?

Figure 14: Students' use of digital resources for schoolwork



How are you currently using these kinds of tools, content and resources outside of school?

Figure 15: Students' use of digital resources outside of school

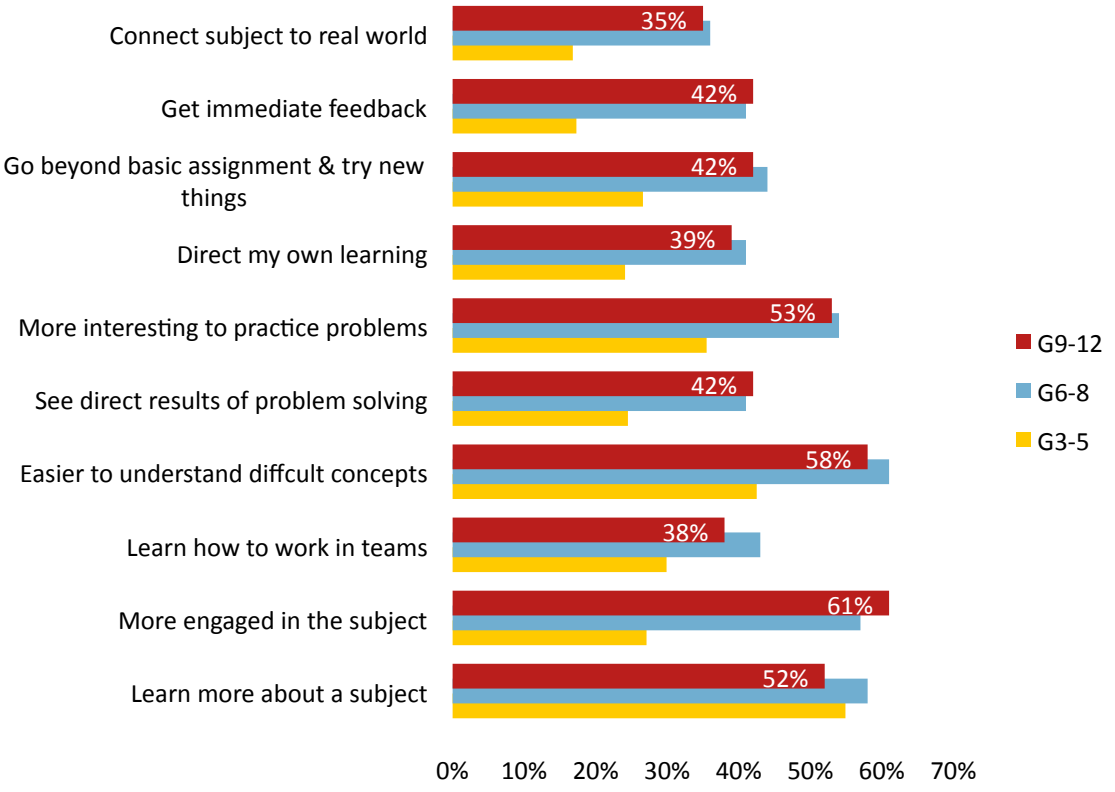


We see in the comparative of the in-school usage versus the out-of-school usage that the students are doing more creation and manipulation of digital media in their personal lives. This process of creating content from other content is a key characteristic of the Free Agent Learner who relishes the learning opportunities presented through interactive experiences. In a change from traditional education, the process of creation is as important and sometimes more important than the end result of the activity in a digitally-rich learning environment. The latest Speak Up data around the use of games and online textbooks within learning is particularly demonstrative of how students want to leverage more digitally-rich learning experiences within their unique vision for education.

Focus on Games

What do you think would be the benefits if video or online games were part of your regular schoolwork or classroom activities?

Figure 16: Students value the use of games for learning



Parents also have strong value statements about the potential of games to help students with learning.

Some teachers are starting to use educational games within instruction. How do you think using online or video games in schools could help students' learning?

Table 3: Parents' perceived value of the use of games for learning (top responses)

Benefits	% Responses
Appeals to different learning styles	76%
Increases student engagement	76%
Develops problem solving & critical thinking skills	57%
Helps students visualize difficult concepts	56%
Provides immediate feedback	56%
Develops creativity	53%
Gains experience through trial & error	50%

Focus on Online Textbooks

When asked to design the ultimate online textbook, the students focused on three key themes for their desired features and functionality: interactivity and relevancy of content, fostering collaborative learning and personalizing the learning process. This new online textbook desired by the students is not a CD of the printed textbook, nor is it digital reader. Rather, the students are looking for a learning tool that mirrors the way they are currently using a wide range of Web 2.0 tools and applications in their out-of-school lives. As we have seen before, with their wish list for this new kind of textbook, the students are functioning as a Digital Advance Team. They are adapting emerging technologies for educational purposes and signaling a new way for the rest of us to think about digitally-rich learning.

Imagine you can design a new kind of textbook that will be 100% online. What should be included in that new online textbook?

The ultimate textbook: Putting personalized learning in the hands of the students.

Figure 17: Students want their online textbooks to be interactive and up to date

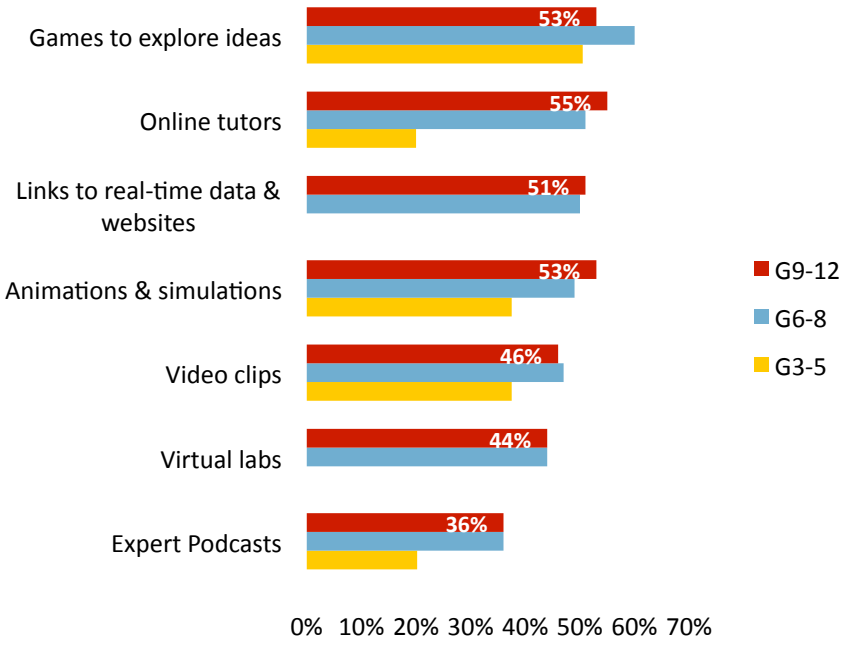


Figure 18: Students want their online textbooks to have tools that facilitate collaboration

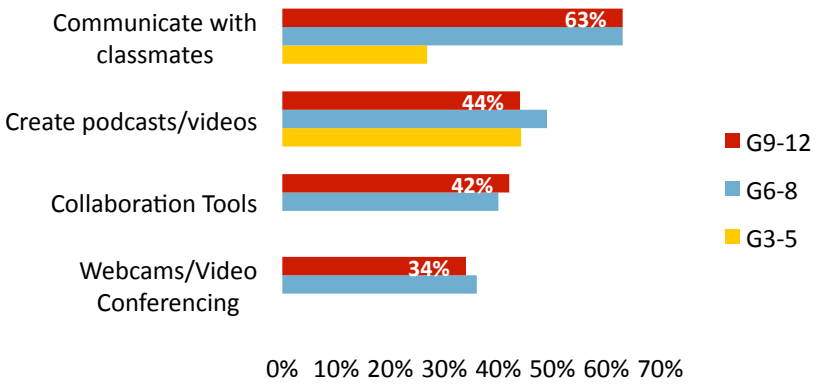
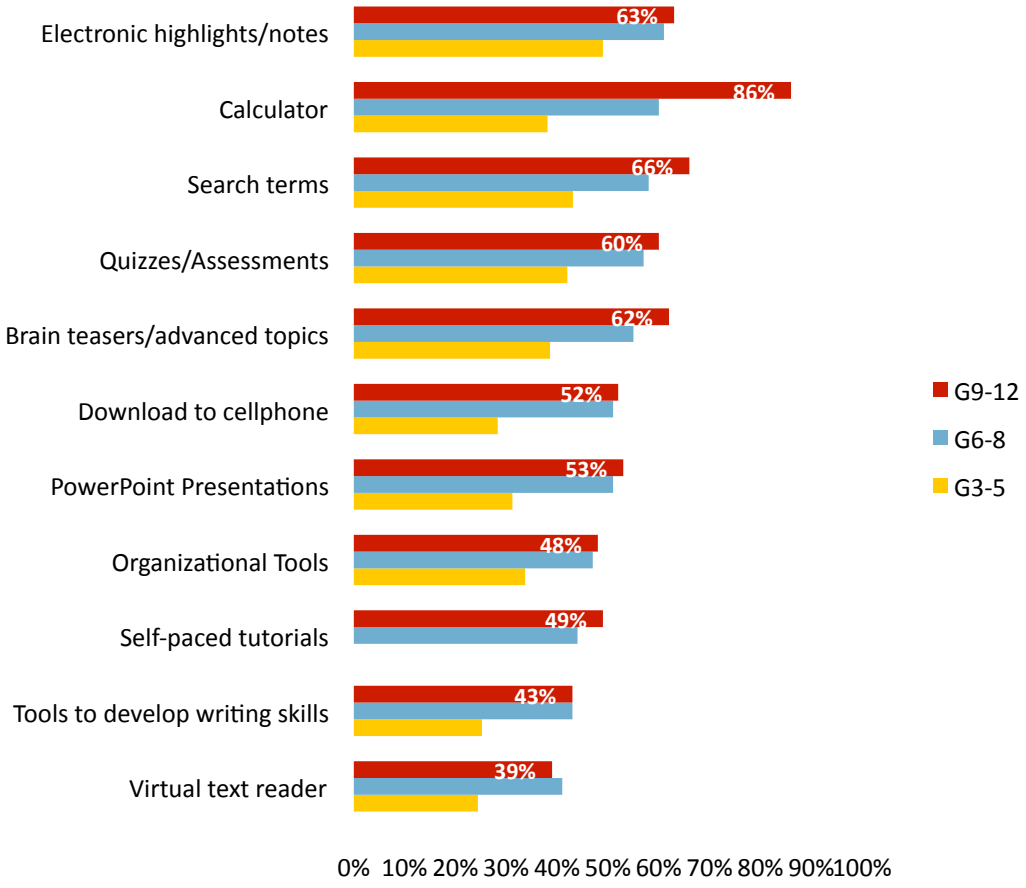


Figure 19: Students want to use their digital textbooks to personalize learning



Similarly, parents are also looking for a new kind of textbook to enhance their child's learning. In fact, 93 percent of parents like the idea of an online textbook and 47 percent feel that online textbooks would be good investments for schools to make to improve student achievement.

Table 4: Parents' recommended features for online textbooks

Benefits	% Responses
Interactive and Current Resources	
Access to online tutors	66%
Animations and simulations	66%
Links to real-time data and websites	62%
Podcasts from experts	37%
Personalize learning	
Search terms	77%
Electronic highlights/notes	71%
Quizzes/Assessments	67%
Brain teasers/advanced topics	62%
Self-paced tutorials	60%
PowerPoint Presentations	47%
Calculator	46%
Download to cell phone	23%
Facilitate collaboration	
Communications tools	50%
Create podcasts/videos	33%
Collaboration Tools	33%
Webcams/Video Conferencing	24%

Though this digitally-rich learning environment represented by games and online textbooks is widely supported by both students and their parents, teachers use of digital resources lags behind these aspirations. While a majority of teachers (53%) are using digital teaching aides in their classroom such as lesson plans, test-prep software, and websites, only 21% say they are using games and only 18% are using online textbooks. Less than 9% are incorporating the kinds of interactive simulations desired by two-thirds of parents and a majority of high school students into their classroom instruction.

This disconnect around digitally-rich learning environments is even more pronounced when we examine what students say about learning math. When asked about what kinds of teaching strategies would be most helpful in learning math, the high school students identified the following digital tools as most effective:

- Using interactive simulations to solve math problems (37 percent)
- Using online or computer based math games (40 percent)
- Using animations to help me visualize difficult concepts (34 percent)

Additionally, one half of middle and high school students chose learning math by solving real world problems as the most effective strategy. This underscores the real value of the digitally-rich learning experiences for the students and why this essential element is included in their new vision for education. Whereas students will concede that incorporating technology into learning does increase student engagement and motivation for learning, it is equally important to realize that for today's students emerging technologies such as games and online textbooks increase their personal productivity as well. Using technology as part of learning is an essential business practice for today's students, not just an add-on for skill development or motivation.

Ending Thoughts

As this report is released, there is a great deal of discussion nationwide about new ideas for leveraging emerging technologies to drive student achievement, to reclaim our nation's predominance in college graduation rates, and how to take back our global leadership role in innovation. Ground-breaking policies, programs and plans are being unveiled to jumpstart a new standard for 21st century learning in America. This is a very exciting time with so much promise on the horizon in terms of finally tapping into the potential of technology to transform our schools and communities, and to give all students the opportunity to be well-prepared for the jobs and careers of the future.

Each year in the Speak Up survey, we ask our nation's students in kindergarten through twelfth grade to envision with us an ultimate school where the learning processes are designed specifically to meet the needs of today's learners and to leverage a wide range of emerging technology tools and applications to improve student learning. In focus groups conducted all around the country, we facilitate conversations with students around this same question. The students' response to the Speak Up questions and our subsequent conversations all point to one resounding fact: though often not explicit, our nation's students already have a plan in mind for how to effectively leverage technology to drive student achievement and ensure that all students are well-prepared for the future, and they are, in fact, with or without the rest of us (parents, teachers, administrators, legislators, community leaders) executing their own vision for a 21st century education. Their vision is much broader than the individual technology components often described in local education technology plans and more focused on transformational changes in the learning process that are enabled by the use of a wide range of emerging technologies. The students want to be able to interact and learn from their own personalized network of experts using cutting edge communications and collaboration tools. They understand that learning is a 24/7 enterprise and need learning tools and processes that are not tethered to time, place and geographic boundaries. And they recognize from their own experiences growing up immersed in digital media that the best way to drive educational productivity is through the effective use of rich and relevant digital tools, content and resources. Technology is enabling, empowering and engaging these Free Agent Learners in ways that traditional learning paradigms are not, and thus it is, in fact, unintentionally exacerbating the relevancy crisis in American education. And that is a good thing.

The Speak Up National Research Project each year shares data findings from K-12 students, teachers, parents and administrators to inform federal, state and local policies and programs for improving education. With this year's national findings, we are providing new insights not just into how students are using technology in school, but also the vision that the students have for a truly 21st century learning environment. Let's use this exciting time with so many rich discussions underway about the future of education to include the voices and ideas of our nation's students in these critical conversations. Let's embrace the new student vision for education with its three essential elements that have the power to catalyze change in our nation's schools. Let's empower our students to take part in this education transformation. And let's always remember that the future of our nation is in the hands of today's students. Students: We are listening for your ideas. Go ahead and speak up!

Special Thanks to our Speak Up 2009 Sponsors:

- Blackboard Inc.
- CDW-G
- K12 Inc.
- Schoolwires
- SMART Technologies
- Wimba

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EXHIBIT 5

Safety Impact Stories
Crisis Preparedness/Management/Communications

Loudoun County, VA

During the January-February snow emergency, the local DIT was knocked offline and there were widespread power outages. Using laptops and Blackberries, we were able to access our servers at schoolwires to update our pages. The public did not see this behind-the-scenes maneuvering; our public face remained current. We were able to update closing information; post alternate bus routes for snow-bound areas; and explain why we would not be having make-up days. Of the 288,000 people in Loudoun County, we had only one complaint about LCPS communications during the snow emergency. (This was from a gentleman who suggested we organize shovel brigades to dig out schools and roads.)

Galveston Independent School District

Thorough and advanced planning helped Galveston Independent School District maintain communication in aftermath of Hurricane Ike. Before the hurricane hit, we relied on our internal email system to keep our staff informed and our district website to keep the public informed about our plans to close the schools. After the hurricane struck, we relied heavily on electronic alerts and our district website to communicate with our constituents and with each other. Electronic alerts can be transmitted instantly to an unlimited number of email addresses and mobile devices provided by registered members. The alerts are typically brief, and direct the recipients to the district website where they can access more in-depth information. The electronic alerts were critical to our communications throughout the disaster. Following the hurricane, people were scattered throughout the state and elsewhere. And many of our constituents who remained in the area were without electricity. But just about everyone had their cell phones with them to receive emergency alerts broadcasted from the web platform. We posted this same information with much more detail on our website for those who did have electricity and access to a computer. The website itself was a wonderful complement to the electronic alerts because we could post much more in-depth information on it. Also, our staff created an internal blog so that they could update each other on their whereabouts and situations. This was a wonderful tool for them to communicate with each other during a very stressful time in their lives. Although power was down in the area for several days, our website was always up because it is hosted remotely in an area that was unaffected by the hurricane. Our website is accessed routinely by our constituents on "normal" days, so it was natural for them to turn to it for information in the aftermath of Hurricane Ike.

Infectious Disease

Many districts recently experienced firsthand the need for instant and regular communications as the H1N1 flu wove its way through U.S. schools. To keep constituents informed about school closings as well as preventative steps that districts were taking, many customers of Schoolwires relied on their e-Alert application which is a standard feature within the Schoolwires Centricity™ strategic website and community management solution. Using the application, electronic alerts can be transmitted instantly to an unlimited number of email addresses and

mobile devices provided by registered members within a district. The alerts are typically brief, and direct the recipients to the district website where they can access more in-depth information.

The broadcast alert system are most often used for emergency situations like the recent H1N1 public health crisis, weather emergencies or missing child 'Amber' alerts.

In the case of the H1N1 flu crisis, districts had some advance notice about school closings and still had access to their servers. However, some disasters, like tornadoes and hurricanes, strike with little warning and can shut down a district's server or make it impossible for IT staff to access it. For these reasons, many districts choose to have Schoolwires host and manage their Centricity communications platform offsite. Schoolwires provides a central server with 24-hour technical management, reliable security and multiple redundancies, so districts can keep open the lines of communication, even during times of disaster.

Loudoun County.

During the H1N1 flu epidemic, the LCPS Web page was the primary vehicle through which the Loudoun County Health Department distributed information about clinics, types of vaccines (inhalants vs. traditional shots) and information on prevention and treatment from the Centers for Disease Control (CDC).

Dallas-Fort Worth.

As the H1N1 flu spread through Texas, causing districts in the Dallas-Fort Worth area to close their doors, e-Alerts from the districts website were important for Denton Independent School District (DISD) (www.dentonisd.org). The e-Alert was one communications link utilized to keep its constituents informed. The district is located 30 miles north of Fort Worth and health officials had requested that the district close its schools. Sharon Cox, DISD director of communications, is responsible for making sure all district emergency notifications are transmitted quickly and effectively. It was her responsibility to keep the public up to date as the district received new directives from the state and county health departments. Initially, the district distributed e-Alerts that informed the community about the extra sanitation measures it was taking at the schools and to assure people that the district was monitoring the situation closely. More e-Alerts followed as the district eventually closed two elementary schools as a preventative measure, and soon after closed all of its schools for several days in May, impacting its 22,000 students, 3,000 employees, their families and the community.

Woodcliff Lake School District.

Woodcliff Lake School District in NJ also used e-Alerts to keep its constituents informed about the impact of the H1N1 flu. Superintendent Peter M. Lisi sent an announcement in April to inform recipients that the district had no cases of the flu, that it was disinfecting all surfaces in its schoolhouses daily, and that there was no cause for alarm. Recipients of the e-Alerts were directed to the district's website where they could read more information about the district's enhanced disinfectant process. According to Lisi, it takes under a minute to post information in their designated "alert" area on the district home page and to send it out via e-Alerts to the community. In the past, when Woodcliff Lake had to address a situation such as an unexpected school closing, it took staff a day and a half to get the information out through students, in

addition to spending days answering phone calls from concerned parents.“Our Schoolwires web site is a convenient place to post urgent notices, while e-Alerts allow us to tell our community that the information is out there. With a total of two clicks, our constituents can get to our district site and the urgent message,” explained Lisi. In the case of the H1N1 flu crisis, districts had some advance notice about school closings and still had access to their servers. However, some disasters, like tornadoes and hurricanes, strike with little warning and can shut down a district’s server or make it impossible for IT staff to access it. For these reasons, many districts choose to have Schoolwires host and manage their Centricity communications platform offsite. Schoolwires provides a central server with 24-hour technical management, reliable security and multiple redundancies, so districts can keep open the lines of communication, even during times of disaster.

EXHIBIT 6

School District	Survey Respondent	Respondent's Role	City, State	Educational Impacts	Environmental Impacts	Safety-related Impacts
Asotin-Anatone School District	Greg Godwin	Superintendent	Asotin, WA 99402	Use of the teacher website communication to parents has decreased the number of failing students by 13%. The number of missing or incomplete assignments have also decreased significantly.	Our website has over 6000 hits per month. Parents surveyed indicated that they rely on the website as a communication tool for information. 71%	Our website is an integral part of our crisis management plan and the intense communication associated with such an event.
Elizabethtown - Lewis Central School District	Gail Else	Superintendent	Elizabethtown, NY 12932	Window to the school. Link to all activities(academics, arts & athletics) and links to our communities and area.; Parental resource; Teacher resource; Advertises our Rural Adirondack school to potential residents Showcases the quality of our programs Showcases our achievements Raised the bar for technology performance levels in student & staff & community	Reduction of paper/ink useage & staff time Reduction of mailing costs; Timely notifications; Application of technology to link the rural area to the global world; EG: A Scientist (son-in-law of a teacher) transmits data from his job in the Arctic to our 5th grade classroom.	Ability to broadcast IMMEDIATELY safety information, in snow, flood and other challenges.; Emphasizes our PBIS Program tenets = Be Safe, Be responsible & Be respectful.; Showcases the school personnel and their credentials
Los Alamos Public Schools	Jaime Kephart	District Website Cooridnator	Los Alamos, NM	Our website is used directly to help us achieve the communication and technology-in-the-classroom goals outlined in our Educational Plan for Student Success (EPSS.)Teachers throughout our district utilize their Schoolwires teacher websites (i.e. "Online Classrooms) to both improve communication and enhance instruction. Assignments are often posted along with instructional resources that students and parents can access anywhere at anytime. Blogs are used to facilitate classroom discussions, giving students an opportunity to share thoughts and ideas. Online submission forms are used to encourage the submission of student work for recognition and publication. An online curriculum database is available with alignment guides and other curriculum documents to ensure that curriculum and assessments are aligned with our state standards and benchmarks and to ensure that they are clearly articulated within and across each grade level and content area throughout the district.	Our website provides data to those participating in the Global Learning and Observation to Benefit the Environment (GLOBE) program. GLOBE is a hands-on, primary and secondary school-based science and education program uniting students, teachers, scientists and community members around the world in study and research about the dynamics of the Earth's environment. Our website is the connection to our GLOBE partnership and collaboration with the Los Alamos National Laboratory. This collaboration enables GLOBE teacher resources to flow directly into our classrooms, and for Lab employees to volunteer in the classroom. Our district has also recently been selected to participate in a project to build ground-base photovoltaic electric array systems. In addition to additional energy savings, this will serve as a great educational opportunity for our students and community to learn of solar energy and promote energy awareness. It is anticipated that the website will play a large part in communicating information about, promoting and supporting this project.	Living in a mountainous region, winter weather in our area greatly affects our community and schools. Snow and ice often cause very dangerous road conditions. When there are delays, cancellations, or early dismissals, we utilize our website, almost exclusively, to communicate emergency information to our parents and community. This past winter, no less than 11 broadcast E-Alerts were sent to subscribed users to communicate important information and changes due to weather conditions. Over 2000 people have subscribed to our E-Alert system through our website. That number continues to grow daily. Our website and E-Alert system is also used to communicate information to parents in the event of a lock-down, shelter-in-place, emergency evacuation, viral outbreak, or any other type of non-routine emergency situation. This service is invaluable and is provided by our hosting company at a low rate along with our website Content Management System. Other emergency notification options were researched but were expensive and cost prohibitive. This was a very cost effective solution for our district.
Springfield Public School	Keith Kottke	Superintendent	Springfield, MN	It provides timely updates and school happenings with our school community. We utilize it to allow students to link to teacher web pages, this is especially beneficial when a student is absent or may suffer prolong illnesses. It is a requirement of our faculty to communicate and post lesson plan data on their school web page for that purpose.	The district website is an integral communication link between the school and parents that allows school staff to keep parents informed on meaningful events, classroom and extracurricular activities, their schedules, and any school related announcements.	Our website is updated daily and is utilized to post general public safety announcements.
Eldred Central School	Angela Hallock	Technology Facilitator and Webmaster	Eldred, NY	Students can be reminded of upcoming educational events through the website calendar. Teachers post homework assignments, class and project assignments, blogs, etc. Students can also locate teacher contact information when needed. The file sharing program is also crucial in uploading student assignments to teachers. News and upcoming announcements are also available for students on the website.	By placing announcements, lunch menus, upcoming events, scholarship information, Board of Education minutes and agendas and many other items on the website; it cuts down on the amount of printed material that we must mail out to parents, students and community members. It saves paper, electricity, ink and postage.	E-alerts and Broadcast E-alerts are an asset when it comes to sending out emergency infromation out to parents. We can get info out about emergancy closings and game cancelations immediately even to modile phones. In addition we can post emergency info directly to our home pages. It gives parents great peace of mind.
Natomas Unified School District	Catherine Hamilton	Database Specialist	Sacramento, CA	CA schools have been decimated with budget & staff reductions. This year our district was extremely hard hit: the district budget was cut to the core, school budgets were reduced by 50%, staff was lost, and schools were closed. Through all of this, we used our website to keep students, parents and staff up to date on our activities, our expectations and our plans. Without our website, we would have had a very difficult time in providing immediate information to our community. In addition to providing information to the community we had numerous opportunities to use our website to receive information from our community through online surveys through our website. This single action of posting current information and receiving feedback helped reduce fears and concerns. We rely heavily on our web presence in the community. Our students enjoy using the website as another means for engagement. One example comes to mind of the 5th grade classes at one of our year-round schools. The 5th grade teachers decided to create reading response blogs that allowed their students to log in, answer questions and post their thoughts regarding the in-class books they were reading. The students responded very positively to this activity and the teachers reported that the students really enjoyed reading the thoughts of students in the other classrooms. They also reported that students who were non-responsive in class were much more engaged through the web blog. The teachers received more insight into the child's understanding of the content, and their writing skills and were able to adapt their teaching. It was so successful that the teachers are considering incorporating this activity into more of their subjects.	This year, our schools ran out of supplies money well before the school year ended. They were asking for donations of basic supplies: copy paper, pencils, white board markers, staples. Although this hardship was difficult, it did provide our teachers with an opportunity to go green. A large majority of our teachers used their websites to post handouts and homework instead of sending home volumes of paper. It worked extremely well. Parents were more than happy to print the homework handout from home and to read newsletters and handouts online.	Our district employs three methods for communicating during a crisis – by phone and website during the crisis and by paper after the crisis is over. Website updates are built into our safety plans. The majority of our parents rely so heavily on our website and to remove it would be devastating.
Shepherd School District #37	Jeff Armstrong	Network Systems Administrator	Shepherd, MT	I don't know about everyone else, but we use school web hosting to fulfill a very large and much needed niche in our educational programming. We use blogs to enrich student learning and bring content to kids at their level of technology usage. We use a variety of tools through schoolwires to promote learning and achievement, (posting lesson plans, remote learning, blogging, notifying parents and community of upcoming events, activities and it provides a link to invaluable services such as email,emergency broadcasts,and current educational trends etc.)	Collaboration on the site via district and community surveys have helped us with our "green" recycling committees and bond election questions, these are just a few ways in which we use web hosting to engage kids, parents, and the community in the learning process.	N/A
Barrington CUSD 220	Patricia Haughney	Director of Information Services	Barrington, IL	We have been building a collaborative environment to facilitate communication for our students and staff. We are building a learning ecology that will take advantage of shared documents and Web 2.0 tools. Schoolwires is an integral part of our plan as it represents a single starting point for users. Teachers can build classes within their websites that will serve as a jumping off point for student research, parent communication, and project sharing. If we truly expect our students to succeeed in the future, we must equip them with the tools and knowledge they will need. It seems very short-sighted to threaten this collaborative tool by removing the only technology financial support most districts still receive.	N/A	N/A
Mattawan Consolidated School	Karen Tudor	Technology Services Coordinator	Mattawan, MI	Parents can easily track their students' behavior/attendance/grades/late assignments, calendars etc to improve the educational process. Our district can better communicate, in moments as opposed to days, with households.	N/A	This past year, we had to dismiss students early due to an unexpected, lengthy power outage, and communication was easier.
Rocky Mount Academy	Millie Walker	Director of Marketing	Rocky Mount, NC	Rocky Mount Academy, though an independent school with much smaller enrollment than most of the districts that use the content management system of Schoolwires, Inc., likes to believe that its size allows it to maximize the value of such a system better than a larger school. ...RMA uses the website to communicate student achievements to its parent base and the general public at www.rmacademy.com/news. As a tuition-based school, we have been affected by budget cuts and lower income levels during this recession. The E-rate allows us to reduce expense while maintaining an invaluable communications tool.	We also stopped sending homework sheets home last year and told parents and students to look online under each teacher's webpage for weekly assignments. This has greatly reduced the amount of paper used by the school. This year, we will begin using the digital file sharing program Synergy to have students turn in their assignments, increasing the use of technology in the classroom and further reducing the use of paper.	We are able to register users and identify them by grade (PK-12) which then allows us to communicate quickly by email with every single parent in the case of an emergency or important development, or we can do the same with just a single grade's parent set. It is our #1 source of communication, used daily, and parents know it. If they have a question, they should hunt the website first for the answer. From our student handbook with rules and regs to our parent/student directory to teacher webpages and all in between, we are able to put out an incredible amount of information about the school to our parents.

School District	Survey Respondent	Respondent's Role	City, State	Educational Impacts	Environmental Impacts	Safety-related Impacts
Clinton Public	Scott Reilly	Network Administrator	Clinton, NJ	It was clear from the start that our website would be the only viable option for addressing our needs to try to continue the education of the children, even when they are home. We post assignments, instructions, explanations, useful website links and other classroom resources for both the students use in school and as a supplement to their homework. As our budgets continue to shrink, we rely on our website more and more for no-cost alternatives to things that have cost us money in the past.	Last year was an interesting year to say the least. We saw our budgets eradicated, teaching staff reduced, and staff development all but eliminated. At the same time as this was happening, we found ourselves relying on our website to disseminate information to our parents as well as our tax payers. It was one of the only methods for providing information to the public that did not have a cost associated with it. Advertisements, flyers, mailings...all cost the district money. Posting information on our website does not...We now publish our newsletter exclusively on our website to save us the cost of printing individual copies of it as well as the cost of people to run them off and disseminate them. We use it for hosting our Board of Ed Packets that used to cost us money to copy and send via post to our board members (multiple times for revisions) now costs us nothing because we post it securely on our website. It is our definitive source of information to the public for things like our budget as we try to maintain our transparency to the public.	In addition, we were also one of the many districts that had to plan for an attendance epidemic with the H1N1 virus as it made its way around the country, state, and county...We even use it to send our emergency notifications for things like school closings and early dismissals via e-alerts. There are many reasons that we rely on our website as a cost-savings measure for our district. Eliminating it would have a real and direct impact on both instruction and our ability to keep the parents of our students and the general public informed about what is going on at school.
Poplar School District	Peg Fisher	Technology Director	Poplar, MT	Teachers are able to post assignments along with curricular content on the website which provides an avenue for students to access this outside of classtime, even from home. This enables students who were absent for a class period the information they need to complete the daily work. It also is used as reinforcement for those students completing homework. The parents appreciate this method as they have specific details as to what their student needs to accomplish to meet the objectives of the curricular area.	The website enables information access for parents and students without prining reams of paper. Much of the paper used in a school ends up not being utilized, thrown in the garbage, or worse yet, littering the outdoors. Any information provided digitally impacts the environment in a positive way.	N/A
Ridley School District	Gail L. Heinemeyer	Director of Support Services	Folsom, PA	Classroom teachers who have set up homework drop boxes have seen an increase in the homework completion rate. Middle school math teachers have created guides for parents to assist their children with assignments. These are posted on our site. Teachers have access to many tips and techniques developed by our tech department about how to integrate technology into the 21st century classroom. Student work is posted on the site which encourages parents to check on the work done by their children. Parental engagement is increased.	We have significantly reduced printing costs. Summer reading lists for all grades are posted on the site, notices and fliers are posted in the community section which saves cost and time from instruction so that teachers do not have to distribute paper copies. School calendars, handbooks, and directories are accessible to parents and community members. We have eliminated paper evaluations for all professional development activities and workshops. Data is collected through the website and quickly put into a format that can be shared with all stakeholders.	The ability to post school closing notices and use e-alerts has allowed us to communicate with all of our stakeholders in a time sensitive manner.
St. Louis Public Schools	Patrick Wallace	Executive Director of Communications	St. Louis, MO	The Schoolwires hosting site has allowed our teachers to create individual home pages for their classrooms, which provides greater access to information for parents and students. This information includes homework assignments, teacher notes and student artwork. The teacher pages also allow for better communication between school and home, while saving valuable teaching time that was once used to write individual notes or make phone calls.	Prior to joining the Schoolwires family, our district printed 25 Board Books (often several hundred pages in length) for each meeting. Now, we post the book on the website and save thousands of pages of paper each month, all while making our information easily accessible to the public.	Our Schoolwires website has allowed us to create a place for our Safety Committee to post information. This information includes safety messages for students and parents, as well as employee safety documents and tips. The Safety Committee has also taken advantage of the Schoolwires survey tool to gather information.
Educational Service District 113	Carrie Sherman	Video ITU	Olympia, WA	My portion of our district's website is video conferencing. The educational impact is significant. I post recordings of district and state wide meetings which allow those who were unable to attend to view the meeting at their convenience. I also post free and collaborative distance learning video conference opportunities that our schools take advantage of in their classrooms. Their classes are able to connect to NASA for example and make model planes with the NASA scientists instructing them. This is a wonderful opportunity for the kids.	Distance learning opportunities have a tremendous impact on the environment. Arrange a virtual field trip to see museums and zoos across the country without leaving the classroom. No school buses have to take kids anywhere, no stops for food or costs for gas. The savings pays for the virtual content.	A virtual field trip keeps the kids in the classroom so there is a decrease of accidents that can occur when taking large groups on bus trips so this alone saves safety related incidents.
Wessington Springs School District	Lance L. Witte	Superintendent	Wessington Springs, SD	Wessingon Springs Schools website serves a primary delivery of communication. This is used primarily by current families for information and calendar events, but by potential families who want to become familiar with our school. In addition it is utilized as an avenue for students to access information, wikis etc...	Wessington Springs Schools has embrace environmental friendly practices, such as recycling and methods to cut down on paper usage. By having a dynamic website it has cut down on approximately 20% of our paper consumption and we hope to see that number increase.	Our website is able to provide our school community with important emergency notification messages. This is a key message delivery system that our community has become to rely upon.
Jackson County Intermediate School District (ESA)	Tommy Cameron	Communications & Operations Supervisor	Jackson, MI	Michigan Dept of Education-required reporting information is mandated by law to be posted on the distritc web site (i.e., we are required to have a web site). Content management systems make it possible and more cost-effective to meet these requirements.	--The Jackson (Mich) Countywide Educators Directory is posted online and as a searchable database. We used to print 2,500 copies of this 60-page document. We now print 300, saving 150,000 printed pags (approximately 75,000 two-sided sheets). -- HR uses the web site to link to an online database for applications, again, savings thousands of applications from being printed. -- The employee manuals for all four unions and non-union groups are turned into .PDFs and put online, again saving hundreds of dollars in printing costs. -- Other HR forms are available online -- FMLA, payroll, insurance, etc. -- saving having additonal forms printed and avialable.	-- The Jackson County Health Dept. uses the JCISD's Countywide Educators' Director to obtain confidential phone numbers (home, cell) of key district administrators (superintendents, principals) in the event of a crisis. This was put in place during the recent H1N1 flu season. -- Information about the H1N1 flu was available through our web site. -- School closings are posted on the web site. -- The web site is one venue of communication in our crisis communications plan.
Franklin Area School District	Scott Armburger	Director of Computing Services	Franklin, PA	Student Achievement, Engagement, 21st Century Teaching & Learning, etc ongoing mechanism for family and community engagement to inform community stakeholders, such as parents, parent organizations, taxpayers and community-based organizations of school and school district activities	helps us with going green, less paper, cost savings	Crisis Preparedness, Crisis Management, etc.
Berea City Schools	Jane Ramach	Technology Assistant	Berea, OH	N/A	Each year prior to 2007 the district spent several thousand dollars on Employee Directory and Master Calendar printing. Since 2007 the publications above and many others are now live on the web. Not only has this saved the district money and is a green practice, it is also a more efficient way to communicate information with parents and staff. Information is "real time", instead of a once a year publication, which is obsolete shortly after printing. The printing cost alone for the 2006/2007 Staff Directory was $1939.94, and used 90,000 sheets of paper. The district has saved almost $8000.00 and used 60 less cases of paper by not printing the directory.	The most visited place during inclement weather is a school district website. Parents and students know that it is one of the first places to find out if school is cancelled. No longer do they need to listen to a full radio broadcast or watch a long scrolling list on the local tv channel. Information is posted as soon as the superintendent makes his decision, allowing working parents to plan and make arrangements for childcare. The Announcements section also communicates all emergency information. Parents know immediately if there is a problem at their child's school. They also know when things are OK. Recently there was a small fire at one of the middle schools. We were able to let the parents know right away that everyone was OK and safe, and we were able to give instructions for an early dismissal procedure.
Newark Public School System			Newark, NJ	In Newark, New Jersey Physics is a requirement for 9th grade students based on the New Jersey Center for Teaching and Learning's Progressive Science Initiative which has restructured the science curriculum, and retrained teachers to teach so that kids can apply what they are learning across their math and sciences. 50% of the 9th grade students continue to AP Physics where typically across the state only 2% continue. Technology plays a central role in the formula. In order for teachers to enter the program, districts must commit to providing 21st Century classrooms. Collaborative internet based technologies provided in the classroom allow students to interact in the classroom in the way digital natives want to learn thereby increasing student achievement.	N/A	N/A

School District	Survey Respondent	Respondent's Role	City, State	Educational Impacts	Environmental Impacts	Safety-related Impacts
Prospect Avenue School	Gillian Ryan	Teacher	TX	At Prospect Avenue School in Texas, Gillian Ryan, a 5th grade teacher uses her Schoolwires teacher page to communicate with parents and students about assignments and to showcase students' work. Her students often make movies and create digital images and websites in class which are loaded to teacher web pages so that parents and the extended family can view them and feel more connected to the activities that take place in the classroom broadening the family support for the students. The teacher page provides the vehicle for student assignments to be easily accessible and parents to be completely informed of what is going on in the classroom. "Having all this information online make my students more responsible". Safe social media capabilities within the website also allows Gillian to use technology to engage students in learning. Gillian says" I started using an incredibly simple yet powerful tool that has dramatically improved my classroom instruction and student engagement…it has truly revolutionized my classroom". By using a blog, students see each others work and through that, student writing skills have greatly improved. Students collaborate with each other, teachers can better gauge student understanding, parents stay informed all leading to greater student achievement.	N/A	N/A
School City of Hobart	Peggi Buffington	Superintendent	Hobart, IN	At the School City of Hobart in Indiana, school administrators are keenly aware that increased parent involvement leads to improved student success, however, they also recognized that parents often have obstacles that limit their involvement. Some work long hours and have limited time to engage with their children and the district, while others are uncertain on how to engage. The School City of Hobart is helping parents overcome these obstacles by leveraging the deep functionality within their districts family of websites. Their interactive website includes safe social media tools such as blogs and podcasts and a host of online resources to inform and engage their stakeholders. Hobart runs a national research-based multimedia campaign called 'Be There' (http://bethere.org/) designed to get parents more involved in their children's education. The statistics show that with as little as a one third increase in parent participation, school achievement scores increase dramatically. Without a district website as the forum for engaging the parents, the program could not provide the reach it does now in its second year. For example, parents interact with the district through a 'Bethere' blog so parents can learn from and interact with each other. According to Peggi Buffington, Superintendent, "our website has become such a valuable resource that many of our parents have set the district website as their home page".	N/A	N/A
Iredell-Statesville Schools			Statesville, NC	Iredell-Statesville Schools located in North Carolina says their district website, powered by Schoolwires, has easy-to-find, up-to-date and accurate information on budget issues, events, testing results and more. Former Superintendent, Terry K Holliday, now Kentucky Education Commissioner used the website in order to communicate and interact with all district stakeholders in order to gain public support for district initiatives, including the passing of a bond referendum, the first one to pass since 1947. "My staff and the entire community know what to expect in terms of budget issues, how to lobby, or anything else that is relevant, he says". – District Administration Magazine	N/A	N/A
Denton ISD	Hugh Bozeman	High School Teacher	Denton, TX	With technology, students have the advantage of learning in many different and unique ways. Hugh Bozeman, High School Teacher from Denton ISD, TX says that on his website, he posts written instructions and video demonstrations for homework assignments, resources, educational learning games and practice tests. His students also participate in a district-wide blog so that they can work together and learn from other students. Websites provide teachers with the vehicle and the latest technologies for instruction so they can more fully engage students with different learning styles helping them succeed.	N/A	N/A
Garnet Valley School District	Paul Sanfrancesco	Director of Technology	Garnet Valley, PA	Garnet Valley School District in PA has always prided itself on its solid curriculum, outstanding teaching staff and commitment to education. However, research revealed that the district was lacking in one critical area – their students, as digital natives were ahead of the district in terms of technology skills. To close the gap they implemented a district-wide website solution powered by Schoolwires. Today teachers are blogging with students, students are collaborating on writing projects online and the district is engaging a much broader segment of the community. Paul Sanfrancesco, Director of Technology says, the Centricity solution is essential to helping us develop 21st century teachers who in turn can prepare our students for the 21st century". He goes on to say that "almost 100% (our 3-year goal) of Garnet Valley's teachers use their websites to share information with parents and to engage their students using technology applications in and out of the classroom". This teacher adoption goal was achieved through their popular training program, 'Academy' where teachers learn how to use the various web 2.0 technologies all accessible through the single Centricity platform. The web platform is the single point of entry for all users, the 'hub' for parents, teachers or the broader community to gain access to all the educational resources they need no matter what system the information comes from. "The Centricity platform has helped us create a web presence beyond our expectations. It has elevated our communications and interactions with the community to a new level, and it has taken our teachers into the 21st century so that they can prepare our students for the future".	N/A	N/A
Loudon County Schools	N/A	N/A	Loudon County, VA	N/A	N/A	During the January-February snow emergency, the local DIT was knocked offline and there were widespread power outages. Using laptops and Blackberries, we were able to access our servers at schoolwires to update our pages. The public did not see this behind-the-scenes maneuvering; our public face remained current. We were able to update closing information; post alternate bus routes for snow-bound areas; and explain why we would not be having make-up days. Of the 288,000 people in Loudoun County, we had only one complaint about LCPS communications during the snow emergency. (This was from a gentleman who suggested we organize shovel brigades to dig out schools and roads.) During the H1N1 flu epidemic, the LCPS Web page was the primary vehicle through which the Loudoun County Health Department distributed information about clinics, types of vaccines (inhalants vs. traditional shots) and information on prevention and treatment from the Centers for Disease Control (CDC).

School District	Survey Respondent	Respondent's Role	City, State	Educational Impacts	Environmental Impacts	Safety-related Impacts
Galveston Independent School District	N/A	N/A	Galveston, TX	N/A	N/A	Thorough and advanced planning helped Galveston Independent School District maintain communication in aftermath of Hurricane Ike. Before the hurricane hit, we relied on our internal email system to keep our staff informed and our district website to keep the public informed about our plans to close the schools. After the hurricane struck, we relied heavily on electronic alerts and our district website to communicate with our constituents and with each other. Electronic alerts can be transmitted instantly to an unlimited number of email addresses and mobile devices provided by registered members. The alerts are typically brief, and direct the recipients to the district website where they can access more in-depth information. The electronic alerts were critical to our communications throughout the disaster. Following the hurricane, people were scattered throughout the state and elsewhere. And many of our constituents who remained in the area were without electricity. But just about everyone had their cell phones with them to receive emergency alerts broadcasted from the web platform. We posted this same information with much more detail on our website for those who did have electricity and access to a computer. The website itself was a wonderful complement to the electronic alerts because we could post much more in-depth information on it. Also, our staff created an internal blog so that they could update each other on their whereabouts and situations. This was a wonderful tool for them to communicate with each other during a very stressful time in their lives. Although power was down in the area for several days, our website was always up because it is hosted remotely in an area that was unaffected by the hurricane. Our website is accessed routinely by our constituents on "normal" days, so it was natural for them to turn to it for information in the aftermath of Hurricane Ike.
Denton ISD	Sharon Cox	Director of Communications	Denton, TX	N/A	N/A	As the H1N1 flu spread through Texas, causing districts in the Dallas-Fort Worth area to close their doors, e-Alerts from the districts website were important for Denton Independent School District (DISD) (www.dentonisd.org). The e-Alert was one communications link utilized to keep its constituents informed. The district is located 30 miles north of Fort Worth and health officials had requested that the district close its schools. Sharon Cox, DISD director of communications, is responsible for making sure all district emergency notifications are transmitted quickly and effectively. It was her responsibility to keep the public up to date as the district received new directives from the state and county health departments. Initially, the district distributed e-Alerts that informed the community about the extra sanitation measures it was taking at the schools and to assure people that the district was monitoring the situation closely. More e-Alerts followed as the district eventually closed two elementary schools as a preventative measure, and soon after closed all of its schools for several days in May, impacting its 22,000 students, 3,000 employees, their families and the community.
Denton ISD	Debbie Mosely	5th Grade Math Teacher	Denton, TX	N/A	"We're a green school, we recycle and reuse and it is important to us to keep up with this initiative. Schoolwires aids in our efforts to go green because it eliminates a lot of extra paper. I don't have to print out forms, the math expectations for students, my grading policy, and other documents to send home to parents."	N/A
Garnet Valley School District	Paul Sanfrancesco	Director of Technology	Garnet Valley, NJ	"Some teachers hold 'office hours' on their blogs in the evenings. Students know their teachers will be available at a designated time and they can jump online and ask questions. At other times, participants will join in a discussion about cyber bullying, or events in the schools and current topics. Even our second and third-graders are blogging with their classmates and teachers. Initially, some parents were concerned about having their children interact online, but once we explained that the communication takes place within a safe, secure and closed environments monitored by the teacher, the parents were comfortable with it."	"The ability to post information electronically has helped us to 'go green' in many areas. In addition to eliminating almost all paper documents that were previously sent home with students, we also stopped mailing paper copies of Requests for Proposals. Instead, we post the document online for interested parties to download. Our business office posts many other administrative forms online. Also, all of our school board members access their information through a secure site within Schoolwires, eliminating the need for us to mail out documents."	N/A
Denton ISD	Beth Lopez	5th Grade Language Arts Teacher	Denton, TX	With her teacher site, Beth no longer has to send students home with the 'Tuesday Folder', full of vital information for the week, including a calendar and newsletter. Too often the students would lose the paperwork, leaving parents disconnected from their children's classroom activities. Beth says having her own site gives her more of a professional look, showing parents and the community that she cares about the education of their children. Maintaining her site only takes 30 minutes a week, which she says really takes less time than planning it all out on paper. Not only does her site save time, it also saves a lot of paper that rarely even made it home.	N/A	N/A
Ewing Public Schools	Mark Rudnick	N/A	Ewing, NJ	N/A	"We use Synergy for our board meetings. Board members have individual accounts allowing them to access all of the documents and resources they need. They really want to push the paperless initiative and go green." "We plan to use Centricity to publish communications to the site that are currently sent home to parents; we refer to this as the 'Virtual Backpack'. Instead of sending 20 documents home with each student every week, we will just send home one paper directing parents to the website where they can access all of the important information and resources they need."	N/A
Woodcliff Lake School District	Peter Lisi	Superintendent	NJ	N/A	"Woodcliff Lake decided to start a Going Green initiative last year and we have saved our district $10,000 in printing, copying, and ink costs by posting everything online. And we only have two schools in our district, imagine what the large districts could save!"	Woodcliff Lake School District in NJ also used e-Alerts to keep its constituents informed about the impact of the H1N1 flu. Superintendent Peter M. Lisi sent an announcement in April to inform recipients that the district had no cases of the flu, that it was disinfecting all surfaces in its schoolhouses daily, and that there was no cause for alarm. Recipients of the e-Alerts were directed to the district's website where they could read more information about the district's enhanced disinfectant process. According to Lisi, it takes under a minute to post information in their designated "alert" area on the district home page and to send it out via e-Alerts to the community. In the past, when Woodcliff Lake had to address a situation such as an unexpected school closing, it took staff a day and a half to get the information out through students, in addition to spending days answering phone calls from concerned parents. "Our Schoolwires web site is a convenient place to post urgent notices, while e-Alerts allow us to tell our community that the information is out there. With a total of two clicks, our constituents can get to our district site and the urgent message," explained Lisi. In the case of the H1N1 flu crisis, districts had some advance notice about school closings and still had access to their servers. However, some disasters, like tornadoes and hurricanes, strike with little warning and can shut down a district's server or make it impossible for IT staff to access it. For these reasons, many districts choose to have Schoolwires host and manage their Centricity communications platform offsite. Schoolwires provides a central server with 24-hour technical management, reliable security and multiple redundancies, so districts can keep open the lines of communication, even during times of disaster.

School District	Survey Respondent	Respondent's Role	City, State	Educational Impacts	Environmental Impacts	Safety-related Impacts
Dubois School District	Rochard Fisherowski	Music Teacher	Dubois, PA	N/A	"Our grades 3-5 have become all technology class settings, and Schoolwires is a large part of that and in saving us resources on paper and printing costs. Previously we were using nearly 100 folders and 1300 pieces of paper per year for homework assignments in our music class alone. Now, we have no hard copies, printing, photocopying, or traditional classroom worksheets in any of the classrooms. We are able to use Synergy for our entire file sharing needs, and our teacher sites to convey any information and assignments."	N/A
Merced Union High School District	Sandy Braa	Director of Technology and Information Services	Atwater, CA	N/A	"Synergy is really working out well for us. We have been looking for a district-wide digital file sharing system, and this has fully met our needs. We have seven high schools and they all learn the same materials. Instead of trying to print all of the curriculum guides, make changes and then have to re-print them, we are able to use Synergy to share and update them. This saves a significant amount of time and paper. Posting handbooks to the district and schools sites has also saved us a lot of money on paper and printing. We don't have to print thousands of copies for each student every year. We only print a few for those who walk in and ask for them."	N/A
San Marcos Unified School District	Bill Simpson	Executive Director of Technology	San Marcos, CA	N/A	"Our Curriculum Department used to print out curriculum content and resources and fill up 4 in binders to distribute to every teacher at every school. Now, all of those materials are being posted on the website electronically. That way when that material is updated, you don't have to update every binder and start all over again. You can just update the files on the webpage and you're in business!"	N/A
Scarsdale	Hu, Winnie. "Fewer Fliers Sent Home as Schools Put More on Web." The New York Times 8 Sept. 2009: 1-3. NYTimes.com. Web. 14 Sept. 2009. <http://www.nytimes.com/2009/09/08/education/08mail.html?_r=1&scp=1&sq=fewer%20fliers&st=cse>.		Scarsdale, NY	N/A	According to an article written in the New York Times, back-to-school packets filled with dozens of pages of notices, fliers and forms sent to all 7,800 students from The Commack School District added up to more than $12,000 in postage alone last year. This year, the district created a back-to-school section on the district website, providing parents and students with all of the important notices and forms they need. Utilizing the Internet as a communication channel saved the district $9,000 in stamps plus $12,000 in salaries for clerks who used to spend up to two weeks assembling the packets. "Scarsdale Middle School (Schoolwires client) will no longer print report cards this year –grades will be available through a secure section of its website called the parent portal, which officials said would save $1,000 annually and, they hope, reduce peer pressure over comparing grades."	N/A
Kings Canyon Unified School District	Jerry Edmond	Director of Technology	Reedley, CA	N/A	All of our minutes, agendas and meeting dates are all online now. Instead of printing hundreds of 35-page packets to send out to everyone in the district informing them of what happened at our board meetings twice a month, we send them a link!	N/A
Naselle-Grays River Valley School District	Lori Dearmore	Teacher Librarian	Naselle, WA	Our district website not only provides information to parents, students, and staff, but it is a tool for communication and displaying student work. Teachers post homework assignments, videos, podcasts, and in some cases, blogs. Students and parents have access to event information, grades, and teacher-created pages	Communication with parents and students has increased as a result of our district website.	School closure announcements and other weather-related issues are posted on the school website. This keeps parents informed of safety-related issues.
Dufur	Jack Henderson	Superintendent	Dufur, OR	Students access daily lessons / Unit plans for reference outside of school hours. Parents can track their students progress as well.	N/A	Public can access information concerning any safety messages that the district chooses to issue.
Flat Rock-Hawcreek School Corporation	Denise Ollestad	Technology Coordinator	Hope, IN	Our Corporation is in the early stages of trying to provide more of these tools to our students while at the same time trying to be cost effective. It makes sense to have the site hosted w/the engineers who have the expertise and equipment to provide good backups and access guarantees. Web 2.0 tools such as message personalization, blogs, wikis, forums, and user commenting are provided. Teachers can easily build their own web sites using tools that look and feel like Microsoft Word and eMail. Once they have established their web sites, they can easily integrate other tools like podcasts, blogs, photos galleries, and more. Students visit the teacher web sites over and over to view their homework assignments, find learning resources, and engage with their teachers and other students. More technologically-sophisticated teachers can make use of powerful capabilities like HTML source editing, JavaScript and Flash support, and even custom .asp programming integration. Taken from ProjectTomorrow.org http://www.tomorrow.org/speakup/pdfs/SU09NationalFindingsStudents&Parents.pdf What students want... . Social-based learning - students want to leverage emerging communications and collaboration tools to create and personalize networks of experts to inform their education process.	It make sense to utilize resources that are available without duplicating all the equipment and security and upkeep at each individual school corporation.	Complete data recovery services with offsite back-up data storage. Data is always safe, always secure, and always recoverable. Keeps parents informed and involved in their children's education with automatic e-Alerts, blogs, and individualized content. There are content approval processes and role-protected pages and content that gives the right people access to the right content at the right time.
Merrillville Community School Corporation	Kelly Murphy	Director of Information Technology Services	Merrillville, IN	We use our website to provide our parents and students access to their grades, attendance, and school events calendar. Our website also provides access to all of our schools' performance on the state testing. Our teachers use our website to organize the classes they teach by providing a syllabus, discussion groups among their students, and enabling students to submit their work electronically. These class websites also provide access at home for students thus extending the instructional day. Our district website is becoming more essential in our day to day activities every year. With our limited technology staff and limited funding available, the e-rate assistance for web-hosting is essential for our education mission.	We post all required forms for both staff and parents in an effort to reduce printing paper copies.	All school closings and delays (weather related or emergency related) are posted on our site as a service to our parents and community.
DVSD	Chris Lordi	Associate Director of Support Services	Milford, PA	Teacher websites provide a designated area for parents and students to retrieve assignments and updates. The website also offers technological learning through the Internet.	Our district no longer prints 10,000 hard copy calendars, we just put everything on our web calendar for the community to view, including parents. Teachers also have cut down on the paper use due to assignments being posted on the teachers webpage.	We have our safety policies and procedures on the site for staff to have immediate access as well as providing a secure place for work orders to be placed.